Vocational Housing: A Housing Proposal for Hawai'i's Homeless

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Submitted towards the fulfillment of the requirements for the D. Arch. Degree.

School of Architecture
University of Hawai'i at Mānoa

D. Arch. Committee

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We Certify that we have read this D. Arch. Project and that, in our opinion, it is satisfactory in scope and quality as a D. Arch. Project for the degree of Doctor of Architecture in the School of Architecture, University of Hawaii at Manoa.

Doctor of Architecture Project Committee

Amy Anderson, Chairperson

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Ramona Mullahey

"Home is where one starts from."

- T. S. Eliot

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Chapter 1

ABSTRACT

HOMELESSNESS + ARCHITECTURE = DARCH PROJECT

The increasing homeless population has become a growing concern in the United States. Although homelessness is a perceived as a socially related issue, the research conducted in this document is to understand how architecture and the architect can contribute toward a solution to the problem. Due to the complexity of the subject matter, the majority of the research conducted in this study will focus on the State of Hawai'i and the residents of the Waianae Coast on the island of 'Oahu.

This proposal will begin with the project statement (Chapter 2), which consists of identifying the problem, stating the project intent, and brief introduction to the methodology of the project. The purpose of this chapter is to introduce the proposal of developing an architectural solution to the homelessness problem, as well as, describing the methodology of the DArch process. The next chapter (Chapter 3) summarizes the research component of the project by exploring the social and physical aspects of homelessness. The research conducted in this chapter contains relevant information relating to the project outcome. Chapter 4 consists of a description of the project methodology. This chapter will cover the transition from research to design, influences in the conceptual development, design process and exploration, and conclude with discussions from meetings. Chapter 5 will provide a scenario for the project by introducing three selected sites and describe the proposed concept of a vocational housing program. Chapter 6 introduces six methods of the Zones of Interaction and provides examples for the first three methods. Chapter 7 continues the exploration of the six methods on-site by providing examples of the last three methods. Chapter 8 concludes the document with a summary of the vocational housing program proposal and the DArch project learning experience.

Chapter 2

PROJECT STATEMENT

ARCHITECTURE CAN HELP PEOPLE TOO

2.0 Problem Statement

Homelessness is a rising issue of concern for the State of Hawaii. The tourism industry, Hawaii's primary source of income, is greatly affected by the problem. Hawaii has long marketed itself as a paradise destination of open white sand beaches. However, the growing population of homelessness and emergence of tent structures on the shores of Hawaii has transformed the picturesque landscape into a squatter village setting. The State of Hawaii, City & County of Honolulu, Department of Business Economic Development & Tourism (dbedt), and related non-profit organizations are looking for solutions to resolving the homelessness issue in Hawaii. Many factors contribute to this socio-economic problem, such as the increasing cost of housing, lack of monetary resources to support existing facilities, low incomes, limited land availability, and minimal community involvement/awareness.

The availability of affordable housing, jobs, and services are critical factors in resolving the homelessness issue. Many individuals/families were forced into the homeless lifestyle due to the inability to afford housing or keeping their job. The intention of this DArch project is to understand Hawaii's homelessness issue and to develop an appropriate architectural response that would be beneficial to the local homeless community.

Although homelessness is a social problem, architecture can play a significant role in providing a place to call home. The built environment is often a means to identify a location. Communities are strengthened because of this sense of identity. Therefore, if architecture were to create an environment that the homeless community could belong to it would improve their self-esteem and give them an identity within the community.

The project presented within this document will make an effort to address the topic in a manner that is understandable and can be applied to other sites. Therefore, the proposed outcome for this project will be generalized and use examples to support the concept.

2.1 Project Intent

Two main goals determine the DArch project intent. One focuses on the practical aspect of the project and the other explores the educational value gained from the experience.

The first intent is to determine an architectural solution to the homelessness issue. The objective of the project to bring awareness to Hawaii's homelessness situation and to encourage others (especially architects) to be involved in community related issues. It is hoped the research conducted will open possibilities to alternative methods of approach in design in addressing the homelessness issue or humanitarian architecture.

The second intent is to share the DArch process experience for interested readers (fellow students). Through the conducted research and interaction with individuals related to the subject of the DArch project, the student will learn about the process of problem solving and determine creative methods of responding to the research contents in an architectural manner. It is intended the project will introduce the student to humanitarian architecture and understand the related components of community issues.

In response to the issues stated above, the research conducted in this document attempt to accomplish several goals.

1. Bring awareness to the issue,
2. Encourage community involvement,
3. Propose one of many possible solutions to the current problem,
4. Understand the role of architecture (what can be done to help resolve the issue?)
5. Inform future students about the DArch process,
6. Inspire others to partake in a similar cause, and
7. Stress the importance of conscious design in architecture.

2.2 Methodology

The methodology for this project was unique and very 'organic.' The term 'organic' refers to the unplanned and natural process of development. Therefore, the 'organic learning process' refers to a flexible, non-structured approach to learning. Since there was no set structure to the learning process, the organic method could vary depending on the situation.

The general method of approach for this project began with research. Throughout the process, discussions and research would communicate back and forth on parallel levels. The

focus of the project was greatly influenced by chair/committee meetings and research response. After a majority of the research was completed, the next step involved determining a design approach toward an outcome. Finding the site and developing the concept were the major challenges of the process. The feedback from meetings and discussions were helpful directing the end product. Once the concepts were developed, a design application was proposed. The design application evaluated the general context of the site to specific sites.

An important part of the DArch project was the experience of the learning process. This document is intended to provide two types of information: vocational housing and the organic learning process for this DArch project. Chapter 4 and 8 will describe the methodology and experience in greater detail.

Chapter 3

RESEARCH DOCUMENT SUMMARY

SOCIAL AND PHYSICAL ASPECTS OF HOMELESSNESS

3.0 Introduction

Homelessness is a growing problem that affects all members of society. Social issues associated with homelessness are often complex and misunderstood by the general public. The negative perception upon the homeless community mainly derives from NIMBY-ism[1] and society's lack of interest in understanding the problem. A challenging aspect for the homeless is a sense of belonging within a community. Often, homeless individuals are neglected from society because of their social status and absence of a home. The home is a powerful means of identifying oneself in society. The physical characteristics associated with the home include, its location, type (house, condominium, apartment, etc.), and size (number of bedrooms/bathrooms, square footage, etc.). The social connotations of a home include: community type, context, lifestyle, and ownership. "Research on the social and cultural implications of housing design [focus] on how dwellings reflect identity, both to the individuals who inhabit them and to others."[2] Having a home brings a sense of pride to an individual and when one is without a home, they are without an identity and become forgotten members of society. Their mistreatment causes frustration within the community and it creates a greater divide between the housed and houseless.

The purpose of this chapter is to understand the social and physical aspects of homelessness. Due to the complexity of the topic, this chapter will summarize relevant research to the project outcome. Knowledge acquired from this chapter is important in learning about the

[1] Merriam-Webster's Dictionary and Thesaurus, s.v. "NIMBY." An acronym of "Not In My Backyard" meaning the "opposition to the placement of something undesirable (as a prison) in one's neighborhood."

[2] Sam Davis, *Designing for the Homeless: Architecture That Work*s (Berkeley: University of California Press, Ltd., 2004), 23.

needs and problems associated with the homeless. Architecture influences and is affected by the social context of its users. Therefore, information presented in this chapter will serve as a foundational basis of understanding for the design application.

3.1 Summary of Research

To have a better understanding of the homelessness issue, this summary is sectioned into three parts: Social Aspects of Homelessness, Physical Aspects of Homelessness, and Hawaii Cultural Influences.

Social Aspects of Homelessness

Homelessness is primarily a socio-economic problem. Much of the research that pertains to homelessness discusses the social issues that need to be addressed. Due to the author's unfamiliarity of the social implications related to homelessness, and for purposes of having a better understanding about the problem, general research about the issues were conducted. This research led to an awareness of the causes and types of homelessness, as well as, related organizations and services to help the population.

Homelessness today is much different from the past. There is a more diversified population of various ethnicities, age groups, familial status, gender, location, re-entry to society, health, abuse, employment, and educational backgrounds.[3] This diversification has led to many different categories/types of homeless. A few examples are the Visible Homeless (seen around in public or on the streets), Invisible/Hidden Homeless (multiple families living under one roof), Chronic Homeless (long-term or repeated homelessness), Border-Line Homeless (individuals who are about to be evicted), Urban Homeless (seen in public parks, on the street, in the urban environment), Rural Homeless (seen on the beach, on empty lots in the rural environment), Re-Entry Homeless (recently discharged prisoners, rehab/hospital patients, and veterans), Abused Homeless (physical, mental, or substance abuse), and Unhealthy Homeless (physical disabilities, mental illnesses, and/or diseased).

Throughout the research, it was learned that a lack of basic life learning skills was common among the homeless population. A proven result existed among the multigenerational poverty communities. Younger generations were affected by the decisions and action of older generations (especially from their loved ones and/or parents). When homeless parents struggle with supporting a family, their children are only exposed to this method of family care. Having no

[3] Sam Davis, *Designing for the Homeless: Architecture That Work*s (Berkeley: University of California Press, Ltd., 2004), 15.

idea of proper family care, the children learn to follow by example. Breaking this cycle is the first major step to solving the homeless problem.

It should be noted that the causes of homelessness do not only affect or originate from the affected population, but from external societal factors as well. The following are three major causes of homelessness: Government (a lack in affordable housing, limited funding and availability of services), Economy (rise in real estate, low income, rise in labor cost, and dependency on external resources – import/export), Community (lack of support, awareness, understanding, and sympathy from society, as well as, alienation and the Not In My Backyard syndrome – NIMBY-ism) and the Individual (self-esteem issues and being unaware of basic life skills). According to the National Alliance to End Homelessness, the following are common causes of homelessness:

1. *"Loss of affordable housing*: Gentrification, abandonment, and demolition have reduced the stock of affordable housing. Because of changes in the tax code, very little of this housing is being replaced.
2. *Deinstitutionalization*: In the 1950s, state mental hospitals house more than 550,000 patients. Today that number is fewer than 150,000, leaving a significant number of the mentally ill with no place to live but the streets.
3. *Changes in family structure*: There is an increasing number of single-parent households (which means that one parent carries the burden of trying to care for the children as well as working to support them). Diminished resources and support, a lost job, illness, or eviction can catapult a familiy into homelessness.
4. *Cutbacks in federal housing and support programs*: Aid to Families with Dependent Children, food stamps, and disability insurance income have not kept pace with the rising cost of living. Federal housing programs were cut some 70 percent in the 1980s.
5. *Growing poverty*: As many as 32 million Americans now live below the poverty line."[4]

A major concern in the problem of homelessness is the relationship between the homeless and community. Quite often, the homeless are neglected from society because of their social status and absence of a home. Homeless people feel unwelcome and experience a sense of degeneration, humiliation, threatened. Homeless have no phone, mail, or place to receive

[4] National Alliance to End Homelessness, *What You Can Do To Help the Homeless* (New York: A Fireside Book, 1991), 12.

visitors, resulting to a loss of means of social contact exacerbating feelings of isolation. The home is a powerful means of identifying oneself in society. It brings a sense of pride, identity, having a choice and control over one's personal environment; sense of place, privacy, safety, regeneration, nurturing environment.

When homelessness became a major national concern, the federal government developed a response known as the McKinney-Vento Act. This was "the first – and remains the only – major federal legislative response to homelessness."[5] "This legislation allocated the funds necessary to address the multifaceted problems of the homeless with a wide range of shelter programs that cut across federal agency boundaries. It appeared that the federal government was taking the necessary action to lead the country's efforts to eradicate homelessness."[6] "The McKinney-Vento Act was, and remains, landmark legislation. The programs created by the [this Act] are needed now more than ever, as homelessness shows no signs of abating. However, after more than a decade of an emergency response to a long-term crisis, it is clear that only by addressing the causes of homelessness – lack of jobs that pay a living wage, inadequate benefits for those who cannot work, lack of affordable housing, and lack of access to healthcare – will homelessness be ended."[7]

To help resolve some of the issues of homelessness, the following are a few of the services that are needed: substance abuse treatment, medical treatment, nursing care, psychiatric care, and/or psychological counseling, financial counseling, job training, day care, as well as, educational programs for youth and adults. Currently, there are numerous programs, organizations and government departments are involved in addressing the homelessness issue. A few of the major organizations include:

- Federal: Federal Emergency Management Agency (FEMA), Department of Housing and Urban Development (HUD), Federal Interagency Taskforce on Food and Shelter for the Homeless, Department of Health and Human Services (HHS).
- State: Leeward Coast Initiative, Homeless Efforts Achieving Results Together (HEART), Department of Hawaiian Homelands.
- City and County of Honolulu: Department of Planning and Permitting.
- Organizations: Waianae Community Outreach.
- University: Department of Urban and Regional Planning.

[5] National Coalition for the Homeless, "Fact sheet on The Stewart B. McKinney Homeless Assistance Act," http://www.nationalhomeless.org/publications/facts/McKinney.pdf (accessed January 6, 2008)

[6] Michael Elliott, *Why The Homeless Don't Have Homes And What To Do About It* (Cleveland: The Pilgrim Press, 1993), xix.

[7] National Coalition for the Homeless, "Fact sheet on The Stewart B. McKinney Homeless Assistance Act," http://www.nationalhomeless.org/publications/facts/McKinney.pdf (accessed January 6, 2008)

Physical Aspects of Homelessness

Homelessness is often perceived as an aspect of the housing affordability crisis – "that is, as a social, economic, and political issue – rather than as a design problem requiring the services of an architect."[8] Although it is often perceived as a socially related problem, architecture can greatly contribute to improving current issues and provide insight to future plans of development. At its most basic level, architecture is about defining space to accommodate human activities – form and function.[9] Creating a place that makes them feel welcome, comfortable, and safe shows that someone cares and they are worthy of this concern. The architect's creation of diverse spaces gives them one of the cornerstones to dignity: choice.

Throughout professional architectural history, designing for impoverished communities involved minimal thoughtful design applications. Disadvantaged people did not deserve to inhabit well designed buildings because they could not afford the services. Shelters were often designed for short-term use for temporary inhabitants, therefore, many shelters lacked basic necessities, such as amenities, privacy, and sanitation. As a result the institutionalized environment would strip its occupants of their dignity and their only way to cope with the situation was to create psychological walls in order to achieve some degree of personal privacy.

In the US, a social reform (1860s) enacted housing codes, regulations, and zoning for the betterment of society's health, safety and well being. In the 1960s architects began to see a social and professional responsibility in designing for low to no income communities, it was realized that good buildings could improve the physical and emotional quality of life by reflecting social attitudes, aspirations, and values in design.[10] It was also learned that if shelters and transitional housing were to succeed, it would need to be situated in residential and commercial areas, near public transportation, jobs, social services, and schools – not at the outskirts of town or at the margins of industrial zones. The more remote the facility, the less effective it is likely to be.[11]

"A shelter is a business, after all…a nonprofit one, and it should function as such. Just because the activity is compassion and generates no profit does not mean the shelter should function like anything other than what it is – a business with a certain set of values dealing with certain commodities. A professional attitude permeates the building. The shelter fits into the neighborhood. Outside and in, the shelter must provide an atmosphere that makes the homeless know how they are expected to act. The other important thing to notice about the emerging type

[8] Sam Davis, preface to *Designing for the Homeless: Architecture That Works* (Berkeley: University of California Press, Ltd., 2004), ix.
[9] Davis, 25.
[10] Davis, 23.
[11] Davis, 20.

of shelter is how the homeless themselves are partners in its development. Because most government funding is directed toward the newly-established homeless bureaucracies, shelters have been forced to develop without appropriate funding. Today's shelter creates a working partnership between the helper and the helped. The new shelter forces two worlds to collide, thereby helping both."[12] Although this method of approach may lead to some frustrations due to training,[13] the end results are less costly and more professional shelter, a homeless person with new marketable skills, and a community impressed with the approach."[14]

Residents in these communities are self-governing, and their residency is accompanied by life-skills learning. There is an important link between inhabiting a physical space and the development of the person. When homeless people find a stable situation, they are in a better position to seek help for other problems that they encounter, and they are more likely to seek out contact with those who can help. Working and living with others are among the life skills made possible by these communities.[15]

When providing housing for the homeless, it typically would fall within the Housing Spectrum. The Housing Spectrum is a sequence of housing types provided for the homeless based on their level of responsibility and ability to care for themselves independently. The Housing Spectrum begins with make shift shelters, emergency shelters, transitional shelter, transitional housing, supportive housing, public housing, assisted housing, rental housing, owner-occupied (first time buyer), assisted living and congregate care for seniors, and concludes with affordable housing.[16] The goal of the Housing Spectrum is to move the homeless population towards an independent means of living.

The types of shelters that primarily deal with the homeless are the emergency shelters and transitional shelters/housing. In Hawaii, typical emergency shelters are in the forms of warehouses, tour buses, churches, and yurts located throughout the island. A few examples of existing transitional shelters are: Ohana Ola O Kahumana, Weinberg Village, and Maililand.

Hawaii Cultural Influences

Homelessness is a complex issue in itself, and it becomes a greater matrix of issues when culture is involved. However, culture is an important aspect of understanding the homelessness issue. Discoveries in one's culture can lead to unique solutions to resolving the homeless problem, because specific needs can be addressed or considered in the proposal. The

[12] Michael Elliott, *Why The Homeless Don't Have Homes And What To Do About It* (Cleveland: The Pilgrim Press, 1993), 16.

[13] Elliot, 18.

[14] Elliot, 18.

[15] Sam Davis, *Designing for the Homeless: Architecture That Work*s (Berkeley: University of California Press, Ltd., 2004), 54.

[16] Davis, 9-11.

culture of Hawaii is quite different from its mainland counterpart. Therefore, understanding the Hawaii culture helps cater to specific needs of the community and focuses on a more efficient means of resolving the homeless problem.

In the research of Hawaii culture, a few pieces of information were noted and eventually influenced the project proposal:

- The importance and value of land to the Hawaiians. Traditionally it belonged to everyone and no one person owned a parcel of land.
- Land division: Ahupua'a and The Great Mahele.
- Activities of the traditional Hawaiians included: agriculture (farming), fishing, crafts, and hunting.
- Hawaiians and the land worked together and provided for each other, reciprocal relationship.
- Inspired by the ancient Hawaiians method of being self-sufficient, the research explored local resources to promote the idea for Hawaii and Waianae to become as self sufficient as possible.

3.2 Conclusion

The purpose of this research is to serve as a general introduction to the complexity of the homelessness issue. With the diversified homeless population, this problem affects all members of society. Therefore it is important to educate the community and public about homelessness, as well as help the homeless develop life skills to becoming independent. Although homelessness is primarily a social issue, architecture can contribute to the situation greatly. The home is an important means of identity, pride, and choice/control over one's own personal environment. In design, if the space respects the user, the user will respect the space. Homeless are often neglected from society because of their social status and absence of a home (feeling unwelcome, humiliation, threatened). During the course of the research, the City and County of Honolulu: Department of Planning and Permitting created a Waianae Sustainable Communities Plan (WSCP) that served as a guide to address the needs of the Waianae community and to help maintain the rural character of the district. The WSCP developed a proposal to make Waianae a model community. This research and project supports the idea and takes it to the next level by looking at specific potential sites and proposing vocational housing so that the inhabitants of that site are self sustaining and contribute to supporting the Waianae district and State of Hawaii. More information about the Waianae Sustainable Communities Plan will be described in the following chapters.

Chapter 4

METHODOLOGY

THE ORGANIC LEARNING PROCESS

4.0 Introduction

The concept and outcome of this project developed from an organic method of learning. Within the context of this document, 'organic' refers to the unplanned and natural process of development. Therefore, the 'organic learning process' stated in this chapter refers to a flexible, non-structured approach to learning. The ideas and applications formulated during this project evolved from the author's personal interest in the topic and the discussions from chair and committee meetings. The learning and teaching methods were paralleled, allowing opportunities for meaningful discourse, exchange of ideas, exploration, and reflection throughout the entire process. Trial and error, as well as, changes in direction were a common occurrences with the organic learning process, however, the challenges encountered help develop an awareness of the underlying lessons to be learned.

The purpose of this chapter is to introduce the methodology of the project. After obtaining a familiarity of the topic on homelessness through research, the next step was to apply the learned information to an architectural response. This transition from research to design involved a process of development. To gain a better understanding of this process, the chapter will begin with a brief summary of the transition from research to design, followed by an explanation of the conceptual development and its influences. Next, the chapter will describe the application of the concept to the design process. Finally, the chapter will provide summaries of discussions with the chair, committee, and other influential parties that contributed to the organic learning process and project development.

4.1 From Research to Design

The organic method of learning began with the author's interest in finding a means to help solve the homelessness issue through architecture. The outcome was unknown at the time, however, it was hoped that the gathered information would help guide the direction of the project. The research process was rather malleable and consisted of many broad, narrow, and off-tangent paths to understanding the homelessness issue. But it should be noted that all research related to the topic became a critical component in the DArch development process. The collected information (summarized in chapter 3) provided insight to the social and physical issues of homelessness. For this project, it was helpful to develop an outline that supported the goals of the research. This outline limited the amount of research allowable and help to focus the desired direction of the project, which was to design an architectural response to the homeless problem. The next challenge was transitioning from research to design.

A major challenge in the organic learning process is knowing the next step. Quite often, the next step is unknown and a speculated response must be made to move the project forward. Stated earlier, the organic learning process included many trial and error approaches, as well as, changes in direction. For this project, a proposal to develop a portable shelter was the initial attempt, however, through further exploration and discussion, the concept changed from the idea of designing a mobile structure (physical form) to the development of a spatial experience (application of space).

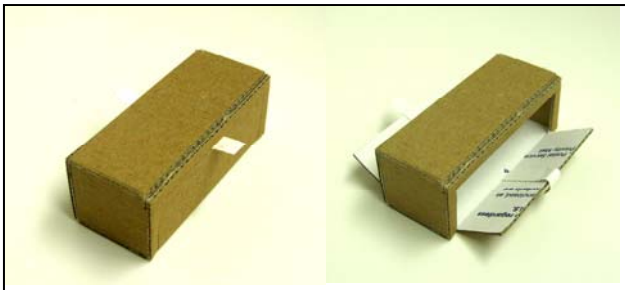
4.2 Influences in Conceptual Development

The development of the concept became the starting point of the design process, because not only did it connect the research and design process, but it also strengthened and narrowed the focus of the project. Even though the initial concept evolved from a physical form to a spatial experience, it maintained the core meaning of doing an activity that is portable. This section will further discuss the project's concept and its evolution to its current state. It is hoped that once the concept is understood, the reader will be aware of the concept's influence throughout the project proposal.

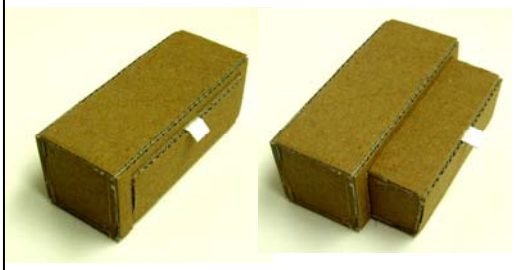
Portability

The initial response to address the homeless population was emergency housing. Based on the research many of the homeless, who inhabited public parks and beaches in Hawaii, were evicted by an enforced City and County curfew. As a result, the homeless population was continuously pushed around the island, where many settled in Waianae. The first proposal was to create a mobile structure that the homeless could conveniently assemble and move to various

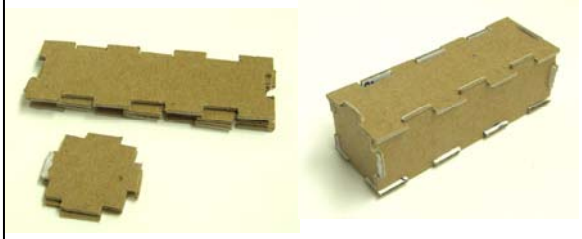
locations. The first step to understanding portability was the exploration of assembly. The ability to quickly assemble and disassemble a structure played an important role in the portability aspect of a shelter. Below are a few examples of study models that investigate the different methods of assembly and mobility.



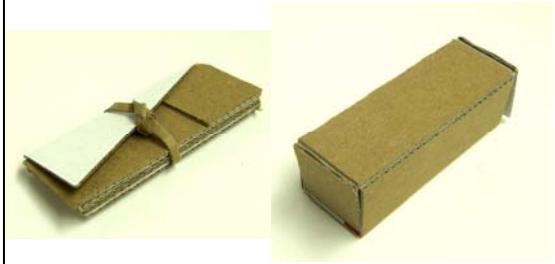
Hinging. The walls of the unit are attached to a hinge that fold out when stationed.



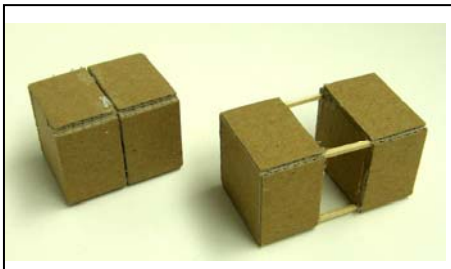
Pull Out. An additional volume is placed within the main volume. When stationed, the smaller volume is pulled out to expand the unit.



Joining. The walls of the unit can be fitted together through a joining method. When in transport, the walls of this structure can be taken apart and stacked flatly.

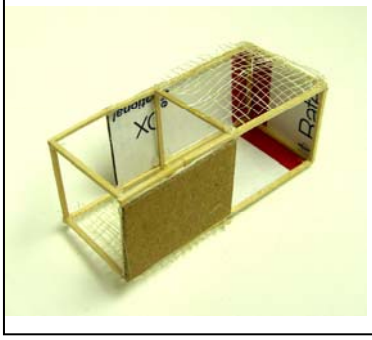


Folding. A cross between the Hinge and Joining. The walls of the unit are joined on a hinge and can be flat packed for transport.



Expanding: The volume is divided into two parts that can be compressed together in transport. When the unit is stationed, the two volumes can be pulled apart to form an additional space in between to expand the unit.

Inflation. The unit is comprised of a soft material that can be folded during transport and inflated when stationed.



Mix-n-Match. The unit consists of varying wall systems that can be assembled and personalized by the user. In transport, the wall systems can be stacked in a similar manner as the Joining or Folding models.

To gain a better understanding of the concept, the author chose to explore other methods of portability. The image below (Image 1) shows examples of different creatures that posses the portability concept and have indirectly inspired the final project outcome.

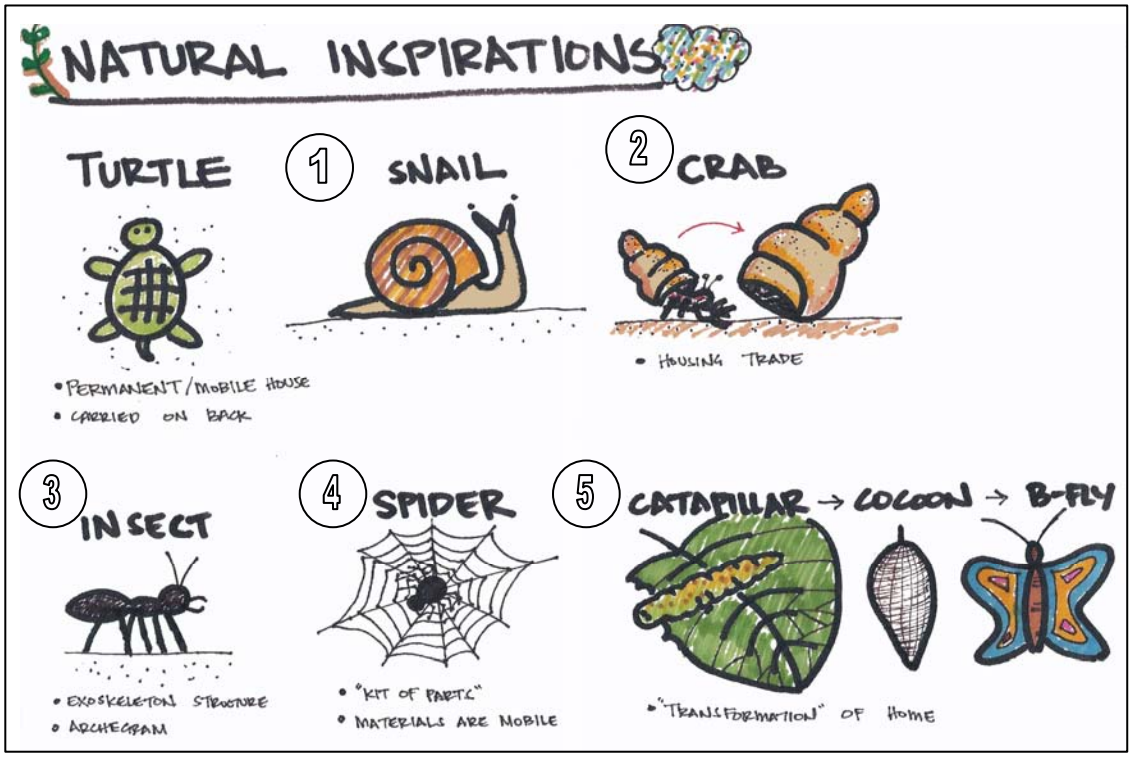


Image 1

Image 1 : The drawings are described from left to right, starting with the top row.

1. Turtle and Snail: Permanent/attached means of portability. The volume does not transform and is rigid when in transport and stationed.
2. Crab: Also rigid volume, but temporarily occupied. The volumes can be exchanged (sustainable) for larger shells.
3. Insect: Exoskeleton structure that becomes a part of the user. Unlike the turtle/snail, where the use can choose to come out of their shell.
4. Spider: The web is similar to a kit of parts. The spider has the option to build a web where it is deemed appropriate.
5. Caterpillar, Cocoon, Butterfly: The transformation of a space or structure is inspired by this creature.

These explorations led to the development of the portable shelter concept described earlier in this chapter. The illustration below portrays an architectural response to a potential means of incorporating the portable housing concept to a general site. This initial concept introduces the idea of learning skills to construct one's own home. The ability and option of

expanding one's home leads them to becoming independent, granted the land is provided for their use. The project concept proposed below shows the different stages of the home expansion process. The goal of this proposal is to provide a permanent location for their homes through a gradual home building process. The sketch at the top right corner is an explanation of the land organization between housing types.

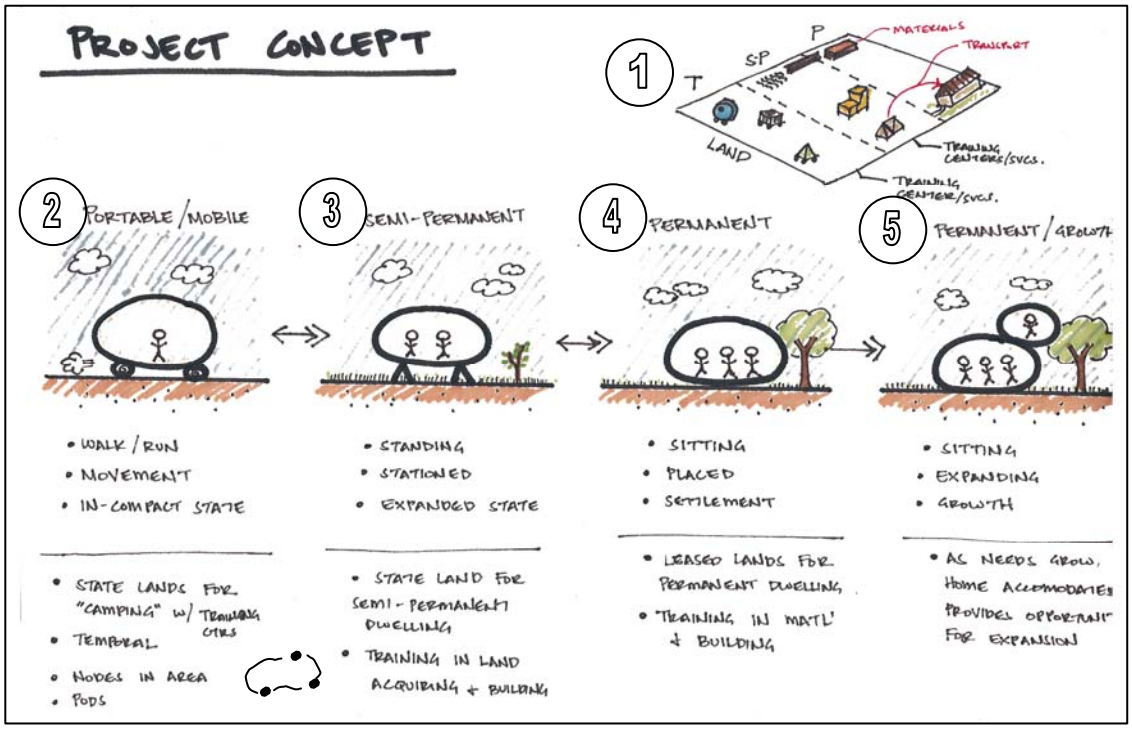


Image 2

Image 2: The drawings are described from left to right, starting from the top.

1. This sketch proposes a general site that consists of three zones (labeled T, SP, and P). The proposal introduces the design of a mobile shelter prototype that is given to the homeless to inhabit. These shelters can be stationed in the T-zone (T=temporary) of a site. The T-zone are for shelters that stay for a short term (days/weeks). The SP-zone (SP=semi-permanent) is designated for shelters that intend to stay for a longer period of time (weeks/months) and provide an opportunity for the homeless to expand their homes through training and building programs. The P-zone (P=permanent) are for the permanent structures. The homeless are given a slot of land to develop their

homes and become a part of a community. Training centers are provided on site for the inhabitants to use. In addition, the adjacent zones allow direct interaction between residents. This can enforce a sense of community on site.

2. This sketch introduces the portable shelter as a mobile and compact unit. This shelter can be conveniently transported to multiple sites, as shown in the small diagram. (T-zone)
3. This sketch is a semi-permanent shelter that has the capability to be transported to another site, but appears to be more promising as a home because of its stationary nature. (SP-zone)
4. This sketch is a permanent shelter that becomes a part of the site. The inhabitants are settled into their home and are given the opportunity to
5. expand their units as shown in this sketch.

Shared Tools

The initial response of portable housing was a challenge, because it needed a focus and reason for it to be mobile. The movement and relocation to different sites had to serve a purpose to make the concept meaningful. The discussion in the committee meeting led to several suggestions. The first was transporting a portion of the structure for a specific purpose that supported the portability concept. Another suggestion was to give the homeless a purpose for their mobility. These suggestions led to the idea of developing the next concept, shared tools. The 'tools' mentioned in this document refer to the 'tools of life' or 'skills to be acquired.'

In order to address the homelessness issue from an architectural standpoint, the social issues had to be addressed first. Because of this change in approach, the main concept needed to be modified. The physical portable shelter was no longer of interest. Instead the activities that occurred within the space were of greater importance. The project concept had to redirect its focus to the spaces that could host activities and encouraged social interaction.

It should be noted that different levels of interaction require different space types. Since it was also important to encourage interaction between the homeless and surrounding community, designated spaces for public/communal interaction would be needed in the design outcome. These public/communal spaces are critical to the integration of the proposed project (homeless population) with its surrounding neighborhood (local community).

The Waianae Sustainable Communities Plan (a guide book about redeveloping the Waianae district through a community effort) influenced a large component of the project research and conceptual development. Chapter 3 provides a summary of the guide, however,

specific descriptions regarding the goals and desires of the WSCP inspired the direction of this project.

Kalo and Ohana

The relationship of the people to the land and other natural elements were of great importance in the Waianae Sustainable Communities Plan (WSCP). Maintaining the district's rural character, the ahupua'a divisions, and connection to Hawaii's past were desired by the community. The image below (Image 3) illustrates three concepts that reflect the WSCP and inspire the project's underlying concept of integration.

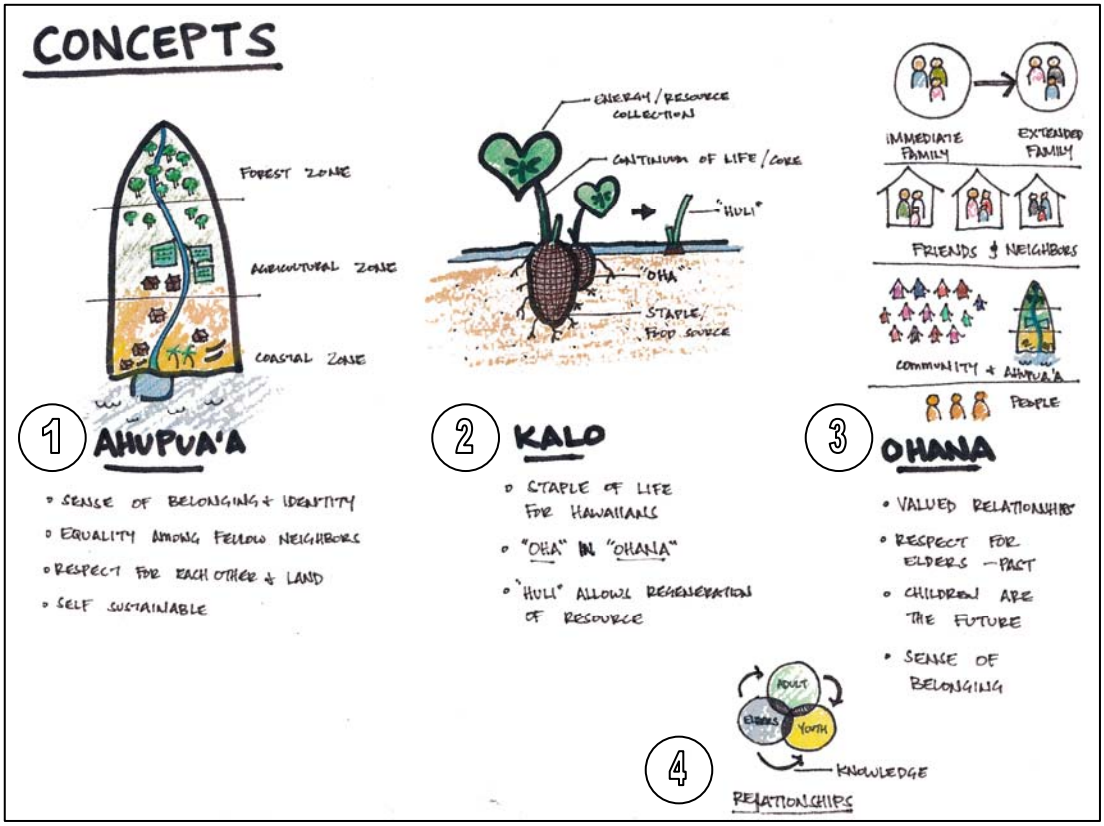


Image 3

Image 3: The drawing will be described from left to right, starting from the top row.

1. Ahupua'a. The ahupua'a is a traditional method of land division (from mountain to sea) that consist of microclimates, a fresh water source, soil types for specific crops, etc. The self sustaining ability of the ahupua'a is a contributing factor to the main concept.

2. Kalo. The kalo plant is the staple of life for Hawaiians. The method of how the root is harvested/replanted contributes to the main concept that will be described in the following image.
3. Ohana. The term ohana derives from the buds (‘oha’) that grow on the main corm. The ohana helps strengthen the relationships between families and communities. These relationships are crucial to an individual’s well being in society.
4. Ohana Relationships. This diagram shows the relationships between multi-generational groups and the sequence of exchanging knowledge. Sharing information with one another is critical to the well-being of a community. Encouraging discussions, having compassion, and supporting one another are the roles of members within an ohana. The cohesive relationships within an ohana can reduce tension between groups.

Stated earlier, the underlying concept for this project is integration. The image below (Image 4) proposes a specific architectural response to the concept and incorporates the ideas presented in image 3.

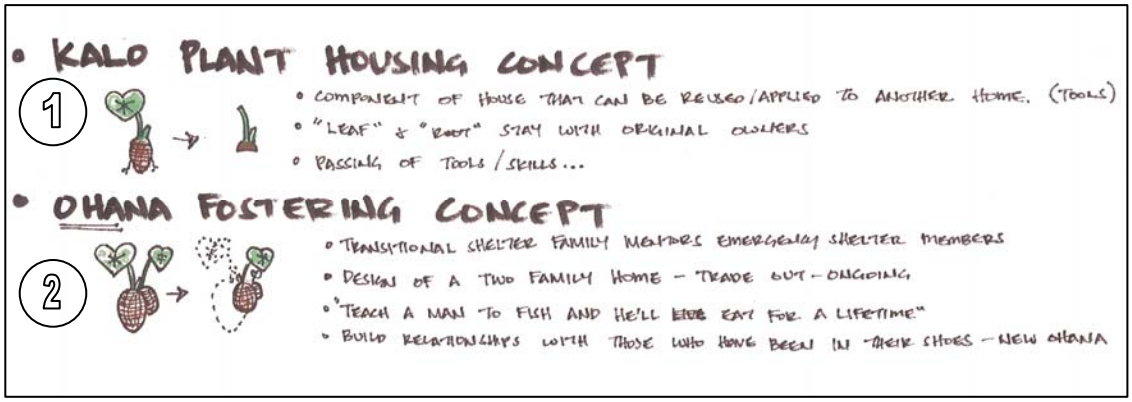


Image 4

Image 4. The drawing will be described from top to bottom.

1. Kalo Housing Concept. This concept studies the kalo cultivation as a source of inspiration. Kalo can be produced by two methods, pollination and replanting the stalk (also known as the “huli”). The huli relationship to the project concept is a learning tool that can be passed on from generation to generation. The housing concept proposes that a component of the house can be reused/applied to another user in the same/different home.
2. Ohana Fostering Concept. Mentioned earlier, the term ‘ohana derived from the kalo plant. The main corm consists of small bud groupings, known as ‘oha.’ When the huli of the

oha are replanted, more oha form on the corm. The concept for the ohana in this diagram refers to a family fostering program. The idea involves a multifamily housing project where transitional shelter residents mentored newly entered homeless families. This mentoring program would be effective because the transitional shelter residents understood the housing system and have experienced the same situation as the homeless families. It is hoped that the program develops a chain of mentorship (another type of ohana). The proposed concept is to have the transitional shelter family live in the same household as the new homeless family and mentor them through the process of getting back on their feet.

Mentoring and Fostering

The kalo and ohana concepts described above have influenced the final project outcome. The mentoring and fostering applications for this project would be helpful for the homeless population because they would have the social support they need. Mentoring could occur in any context, from work to education environments. Fostering strengthens the relationship between mentor and apprentice. The mentor can associate with many of the situations that the homeless encountered. The shared experience can help to develop trust and a willingness to learn/improve one's own life. The mentoring and fostering concepts are the stepping stone to integrating the homeless population into society. Providing the spaces for these activities will be the next step of this project. The following section will refer to the above concepts in this chapter to propose the design application.

4.3 Design Process and Exploration

This section will introduce the proposed design application and process toward the final outcome. It is hoped the information provided within this section will help the reader gain an understanding of the project development process. The research and conceptual development presented earlier support the next step of this design process.

Research and Concept Applications

Based on the research, concept development and discussions from meetings, several lessons were learned and should be noted because of its influence on the proposed outcome. The following bullets are key lessons to consider when proposing a design:

- The top three problems of homelessness are financial struggle, familial conflict, and substance abuse. Having an awareness of the causes or reasons for homelessness can

help give an understanding of what is needed. For this project, it was determined that the following services and facilities should be provided to help the homeless: shelter, training, healthcare, jobs, and schools.

- The “one size fits all” plan does not work. It should be understood that every situation, community, and client are not the same and require different needs. The proposed plan needs to be flexible to allow adjustments to improve/personalize a space.
- The builder/designer should design/create an environment that they would not mind inhabiting themselves. Many times, the quality of a design is overlooked because of the social status of the user, but it must be understood that the quality of a space affects the individual. Having empathy is important in design. The human relationship to space affects the physical and mental well-being. If a space appears uncomfortable for the designer, it will highly likely be the same for the user.
- Definition of a home (home vs. house). An important part of design is the ability to create a space that has a meaning for the user. The meaning of ‘home’ in comparison to ‘house’ or ‘shelter’ is the association of comfort and privacy it provides. ‘House’ and ‘shelter’ are physical forms that protect the user from the external environment, there is no emotional meaning to the terms. ‘Home’ holds a stronger meaning to the user because it encompasses qualities that reflect them.
- Shelters need to blend in with their surrounding neighborhood/community. If a shelter is noticeably different from its surroundings, it draws unwanted attention to the facility. This creates a sense of isolation, making the inhabitants uncomfortable. The homeless need to live in a place that they are comfortable with and proud to inhabit. Therefore it is critical for the shelter to be integrated into its surroundings and not isolate from it. The information provided in this bullet is a key component to the project outcome.
- The symbolic concepts of kalo and ohana have helped to focus the project concept of mentoring and fostering as a means to integrate the homeless community and architectural response to the local community and neighborhood. To further strengthen the relationship of this concept, the image below (Image 5) reviews the meaning of integration using the kalo and ohana metaphors, as well as support the proposed project outcome to be later described.

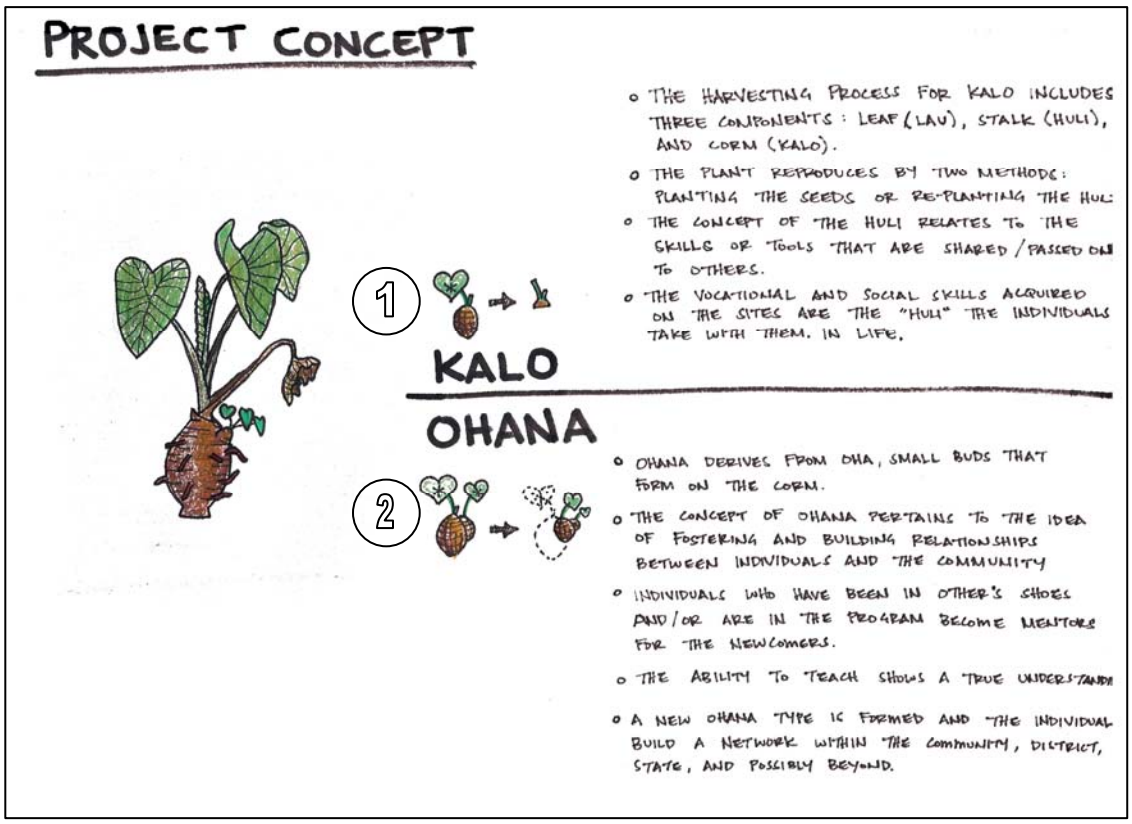


Image 5

Image 5: This drawing will be described from top to bottom.

1. Kalo. The concept of the huli relates to vocational and social skills acquired on site by the homeless. These skills are the tools that the homeless take and teach with in life. The “huli” will instill a sense of pride and knowledge, making the homeless become independent people in society. The ability to teach shows a true understanding of the skills they’ve learned. The mentoring process becomes a two way street, where the mentor not only teaches, but learns from the apprentice, too. New and better ideas can be formulated through the moments of interaction and could lead to promising opportunities in the future.
2. Ohana. The concept of ohana pertains to the idea of fostering and building relationships between the homeless and the community. The term ‘ohana’ refers to many different types of groups (i.e. immediate family, extended family, friends, neighbors, community, people, etc.) and their relationship between each other. This project strives to strengthen the existing ties and building new ones to allow opportunities for the individual (homeless) to start a network within the community as a form of social integration.

Vocational Housing Proposal

The research and discussions that occurred during the conceptual development phase led to the understanding that a primary need and possible solution to the homeless problem would be the availability of jobs. If work could be integrated into the shelter proposal, it would give the residents a sense of purpose and meaning to the skills they develop. The combination of work and home would then be integrated into a neighborhood and encourage the surrounding community to directly interact with the residents based on the services provided.

As a result, the proposed project becomes two entities in one: a vocational facility and residential community. Although both functions are different, they have a common goal: to integrate the site and its residents into the community by providing a service or space that is accessible to the public. The following chapter will further discuss the vocational housing proposal in detail.

4.4 Meetings and Discussions

A major contribution to the development of this project was the discussions that took place with the chairperson, committee members, peers, and contacts referred by the committee. The structure of learning from the discussions is an example of the organic learning process. Ideas, information, experiences, activities, and other topics would be exchanged between individuals. It was a continuous learning experience for all. Although there were challenges and tangents of discussion that occurred over course of the year, the unstructured approach to this learning process allowed room for creativity and exploration. The beauty of this process is that the project outcome would not have been the same if the chair and committee composition changed or if the peers or contacts were different. This proposal is one of many possibilities to resolving the homeless problem. The point of this process is to keep trying.

The following are summaries of experiences in meetings and discussions that occurred over the course of the DArch project. Each meeting type was different and consisted of many strengths and suggestions for improvement. It is hoped the shared experience will a give better understanding of the DArch process.

Committee Meetings

The committee meetings occurred about once a month for 1-2 hours per session. The meetings would consist of updating the committee about the research discovery, general responses to the research, general approaches toward the project outcome, site descriptions, and key discussions from individual chair meetings. The committee would then provide feedback to the presented information and contribute their personal experiences and encounters related to

homelessness. Some of the topics discussed within the meetings pertained to narrowing the focus of the project, working methods, using personal interest to guide the research, knowing the audience, and know how to get the attention of the audience. The committee's responses in the meetings were critical to the organic learning process and help to guide the focus of the project. Having been immersed in the DArch process, these meetings helped to take a step back and review the information in its entirety.

It was fortunate to have a group of individuals who provided much insight to the topic from their personal experience and interests. Also, it was helpful to have the meetings regularly because the committee was a crucial part of the learning process. The most helpful discussion sessions occurred when the committee would bounce ideas off of each other or support one another's thoughts. The dynamic between individuals help provide the possibilities of the project direction, as well as, become an educational method of learning.

Individual Chair Meetings

Individual meetings with the chair occurred about once a week for about 30 minutes to 1 hour per session. The meetings would generally consist of updating the chair on the latest research and responses to each discovery. These sessions became more of a brainstorming session on the development of ideas and thinking specifically about a topic of interest. It was stated earlier, that the committee meetings help to guide the focus of the project. In comparison, the chair meetings help to guide the direction of the project. The chair meetings were critical to the organic learning process, because the chair was the only other individual who intimately understood the project topic on the same or deeper level as the student. Therefore, it was important to have regular weekly meetings to maintain consistency throughout the project.

Discussions with the chair dealt with a few of the following issues: learning to use the research as a source of inspiration for the project proposal and as a guide to the project outcome, exploring different methods of approach in both design and discovery, analyzing information and understanding the underlying message, and developing a sensitivity to all types of culture. The chair meetings were helpful because it was an opportunity to share one's perspective about the topic and to understand the same issues in a different light. These meetings challenged the mind and provided moments to reflect on previous meeting discussions. The chair meetings were extremely critical for this organic learning process.

Peer Discussions

Peer discussions with colleagues occurred several times a week with different individuals for varying lengths of time (10 minutes to 2 hours). These discussions could be comparable to

support groups where students could share information regarding their research and/or meeting experiences. Although every project was different, it helped to understand the DArch as well as the project interests of others.

The ability to explain one's own project was a reflection of understanding it. This is similar to studio critiques, where students ask other students for their opinion or advice. These discussions become a learning experience in itself, especially regular discussions with the same individuals. Research discussions and design response critiques for four different projects occurred regularly throughout the school year. It should be noted that some of the conversations between peers have contributed to the direction of this project. It was interesting to see the organic learning process reflected in peer discussions.

Referred Contacts

Meetings with contacts referred by the committee occurred once for about 1-2 hours per meeting. The purpose of the meetings, were to obtain more information from direct sources about the project topic. Recommendations from the committee provided an opportunity to meet three organizations (Waimanalo Weinberg Village, Empower Oahu, and Ohana Ola O Kahumana) and individuals associated with these organizations (Holly Holowach, Kamuela Enos, Jeffrey Alameida, Puanani Burgess, and Dana Newman). The meetings were helpful and each person was very hospitable, understanding, and willing to share information about their role, organization, program, history, on site facilities, and the homeless problem. The committee's relationship to the contacts, being a student, and having an interest in the topic allowed the opportunity to interact with these organizations and to openly discuss the issues at hand. It was helpful to partake in these meetings, because it brought a greater understanding to homelessness.

4.5 Conclusion

Overall, the organic learning process was an educational experience. Although there were many challenges, it allowed the opportunity to develop a true interest in the topic, encouraged in depth exploration, creatively respond to an issue, participate in interesting discussions, and introduced alternative methods of architectural applications. The major challenges of this learning process were being comfortable with the unknown and the measure of time. In a school setting, many courses outline the structure of a project. The parameters have been defined and the task is to accomplish a set goal within the given site. The DArch project process was a completely different approach. The student defines the parameters of the project, in addition to goals. It was an exciting experience, but a very challenging one. This experience

has provided many lessons, such as, flexibility, critical thinking, the ability to communicate ideas, time management, consistency, experimentation, and focus.

An important component to the organic learning process was the meetings and discussions with the chair and committee. The proposed outcome of this project was greatly influenced during the meetings. The learning process thrived on the exchange of information. When research or an idea was presented, the reaction of the chair/committee would affect the next step of the process. A dialogue would begin and new ideas would be introduced. Then more research would be conducted and filtered, only to be brought back to the discussion, where the cycle continues. Research is a fascinating process and without structure, it can be never ending and off tangent. Having regular discussions, help to keep the research focused and on track.

In any research/design process, documentation is critical to understanding the project outcome. Since this method provides no organization learning, documenting the approach and response is helpful in understanding the methodology and application to future projects. Documentation also allows opportunities to reflect on improving the process.

The next step was a common concern among the chair/committee and author. Even though a vague goal was determined for the project, the final outcome was unclear. Experimenting with the next step was a challenge. For this project, once the concept and goals were determined, the next steps were to select a specific site and to determine the appropriate vocation for each location.

Chapter 5

SCENARIO

A STEPPING STONE TO VOCATIONAL HOUSING

5.0 Introduction

In order to have a better understanding of the proposed vocational housing program, a scenario will be established to place the project within an actual setting. The purpose of this chapter is to share the next step of the process by describing the context in relationship to the proposed project. The chapter will begin with an introduction of the site, followed by a detailed description of the vocational housing concept and the program's method of approach. The chapter will conclude with an analysis of the scenario and the process experience.

5.1 Waianae.

The selection process of the site began with the type of homeless population that wanted to be addressed. Measuring the needs and current inhabited locations of the homeless were the challenges of the selection process. As explained in chapter 3, there are numerous reasons for being homeless. The instinct of wanting to address the entire population would be too difficult attempt. Also, the dwelling conditions of the homeless varied based on location. The need to select a specific location would help to focus the project outcome. Once the general location and target homeless population was selected, extensive research was conducted to understand the situation and determine a method of approach.

The rural district of Waianae was selected for this project because of the rapidly growing homeless population in the area. The research conducted for this project led to the Waianae Sustainable Communities Plan (WSCP), which was a document created by a comprehensive list of local organizations and groups of the Waianae district. The WSCP was a guideline to the

future development of the Waianae district. The following illustration (Image 6) graphically indicates the ideal guidelines for any future planning in the Waianae district.

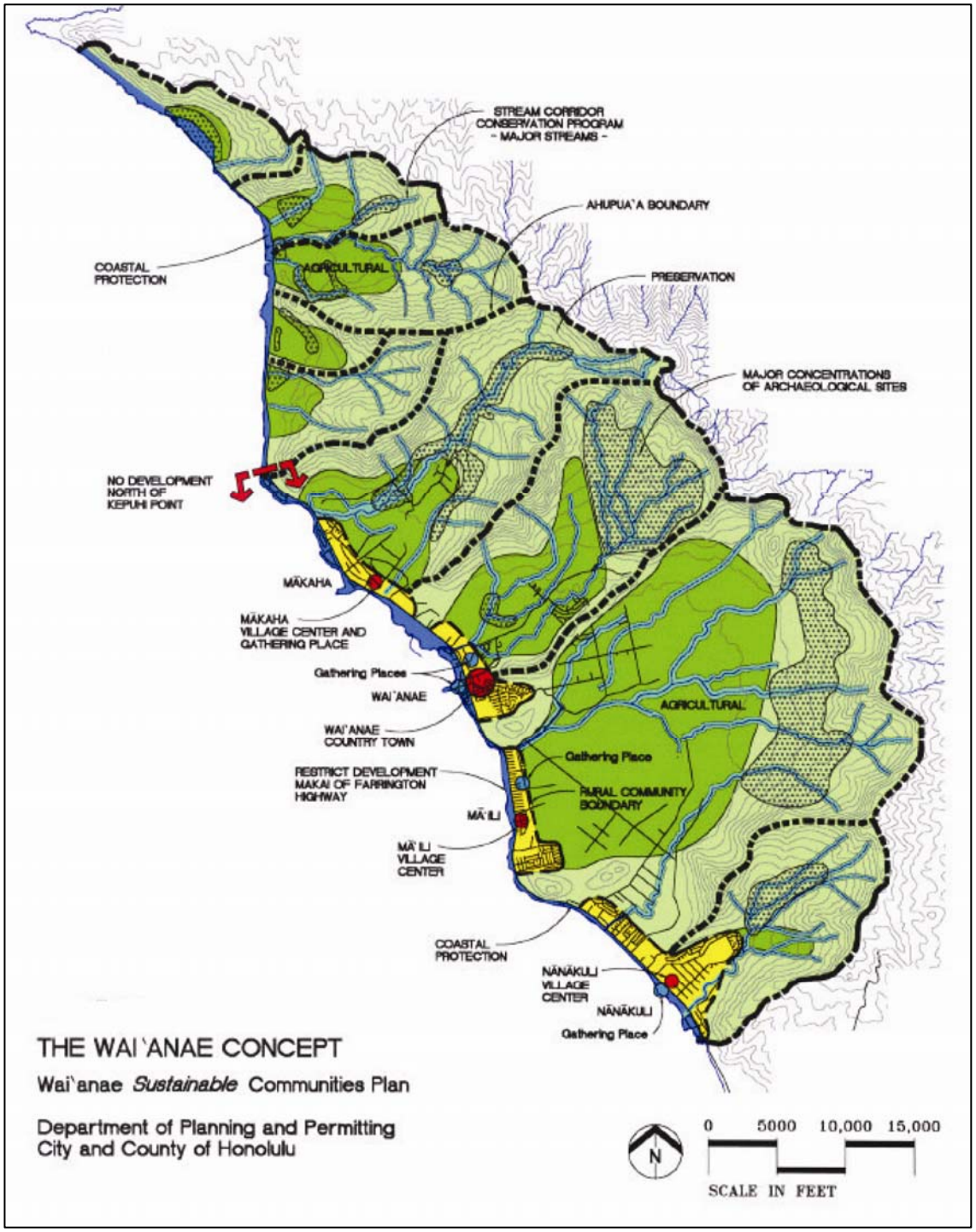


Image 6 courtesy of the Waianae Sustainable Communities Plan

According to the WSCP, four land types exist: Preservation, Coastal, Agricultural, and Rural. Based on the graphic map displayed earlier and the descriptions of the 4 land types, the WSCP proposes that all future residential developments occur within the rural land type. Their goal is to promote a country lifestyle, by preserving or encouraging agricultural activity and local businesses to serve as the resource for the district. The following descriptions will provide more information about the WSCP's preferences that have inspired the project approach.

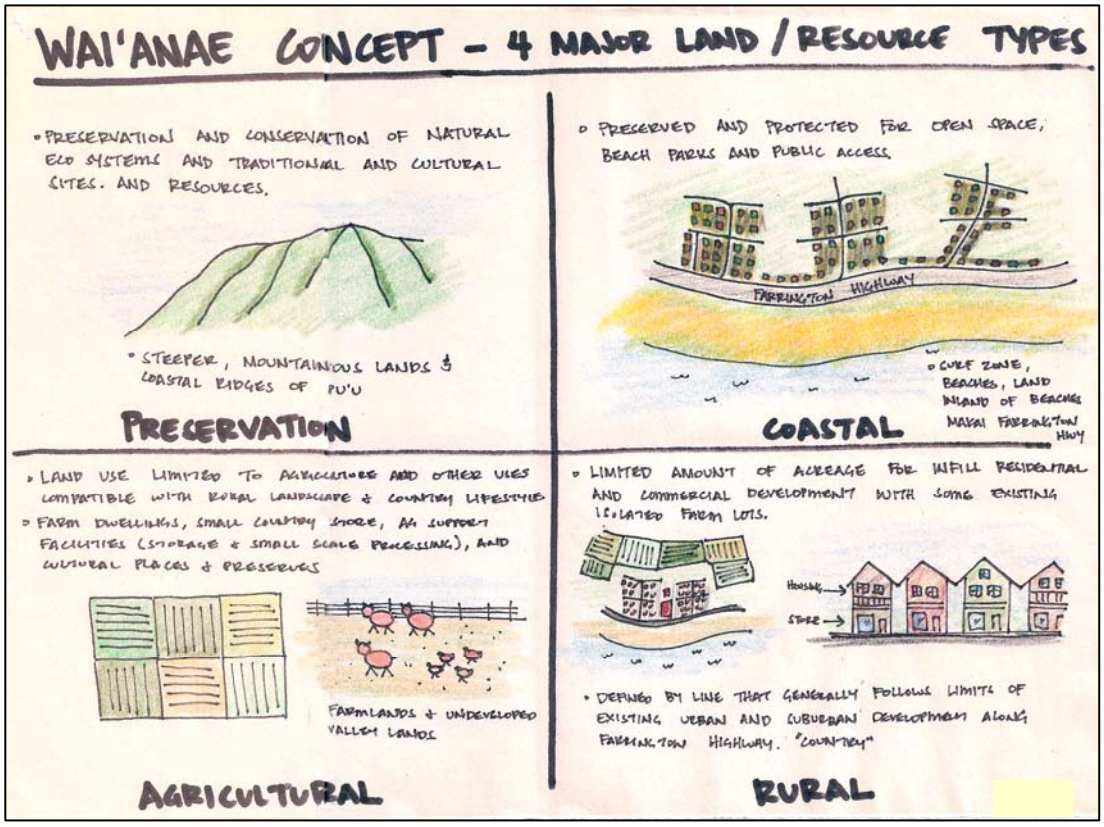


Image 7

Image 7. The drawing will be described from left to right, starting from the top.

1. Preservation. The preservation and conservation of natural eco systems and traditional and cultural sites and resources. Waianae is recognized for its steep, mountainous lands and coastal ridges of Pu'u.
2. Coastal. Preserved and protect anything Makai of Farrington Highway. This includes the open spaces, beach parks and public access, surf zone, beaches, and land along the beaches.
3. Agricultural. The land use for this type is limited to agriculture and other uses compatible with the rural landscape and country lifestyle. This includes, farm dwelling, small country

stores, agricultural support facilities (storage and small scale processing), and cultural places and reserves.

4. Rural. Limited amount of acreage for infill residential and commercial development with some existing isolated parking lots. The rural land is defined by a line that generally follows the limits of existing urban and suburban development along Farrington Highway. It is desired the development fits the "country" feeling of the district.

Once the parameters of preferred development were set, the next step involved finding available State and Department of Hawaiian Homeland (DHHL) properties. Below is an illustration (Image 8) that shows all State (in yellow) and DHHL (in red) owned land within the Waianae District. Sites with the borders marked in green are located in the agricultural zone according to the WSCP. To focus the project, three sites have been selected (circled in blue) within the Waianae ahupua'a. Further description of these sites will be provided in chapter 7.

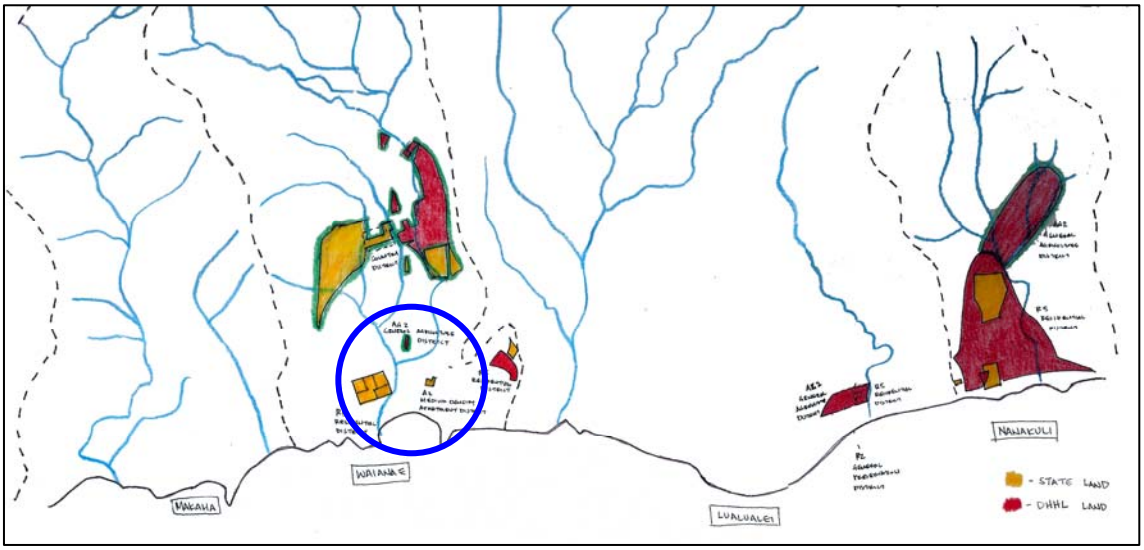


Image 8

5.2 Vocational Housing Program.

The following proposal primarily addresses the homeless population that intends and desires to restart their lives to become independent and self-empowered individuals of society. The proposal is a vocational housing program for in the district of Waianae. The following illustration (Image 9) was the initial approach to design response. The text below the illustration will describe the scenario of the project.

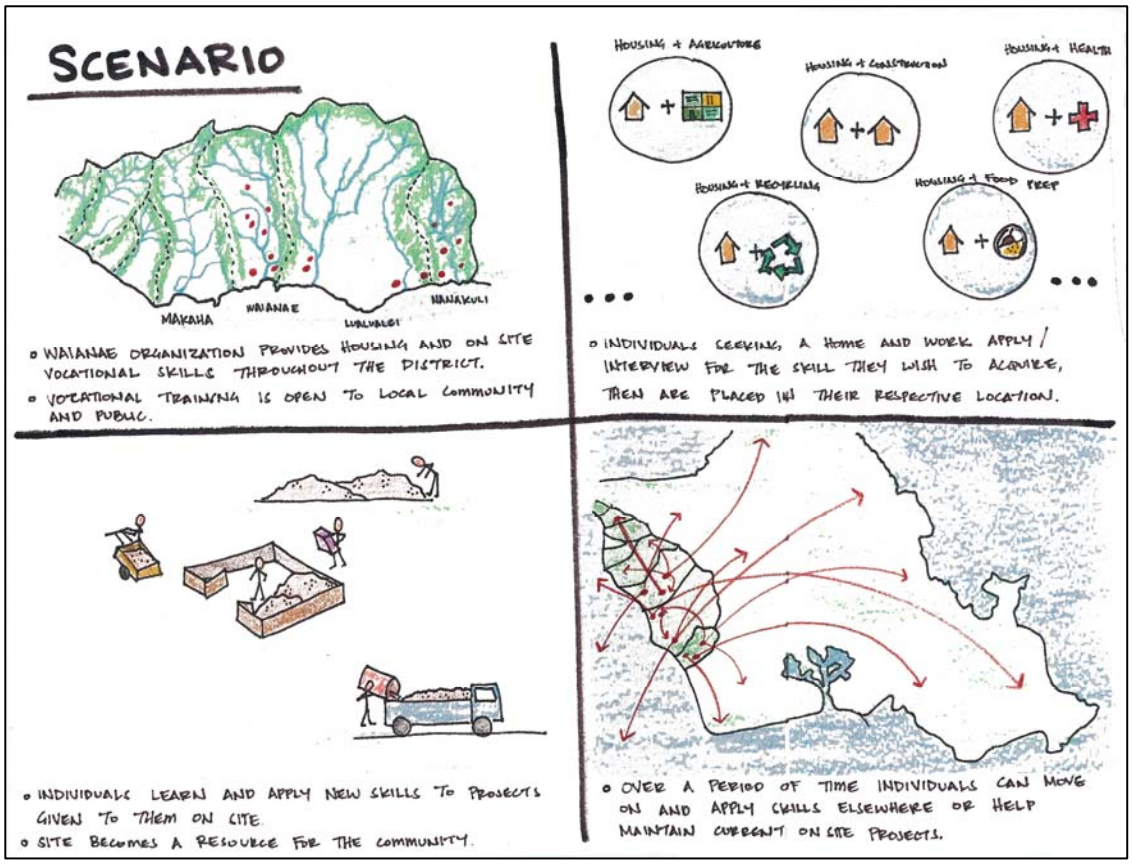


Image 9

Image 9. The drawing will be described from left to right, starting from the top row.

1. The proposal begins with the idea that a Waianae organization provides housing and on-site vocational skills throughout the district. The sites are located on readily available land. Vocational training is also open to the local community and public.
2. The individuals seeking a home and work can apply to interview for the skill they wish to acquire, then they are placed in their respective location.
3. While on-site the individuals learn and apply new skills to projects given to them. The site becomes a resource for the community, too.
4. Over a period of time the individuals can move on and apply the skills they have learned elsewhere or help to maintain the current on-site projects.

To have a better understanding of this proposal, the attached illustrations (Images 10, 11, 12, and 13) will share the day in the life of a homeless person and the changes that can occur in their lives when they participate in the proposed vocational housing program.

The first illustration (Image 10) share a few examples of the typical homeless lifestyle in their living quarters, means of transportation, causes and effects, and general day-to-day activities. This introduction is to have the reader understand the complexity of the homeless lifestyle and serves as a comparative platform for the vocational housing proposal.

The second illustration (Image 11) introduces the vocational housing program. The first step to the proposal is developing an interest among the homeless and community. This is done through the distribution of information in various locations within the district. Such as, schools, peer to peer, announcements/posts, community meetings, television, or internet. Once an interest has developed, the next step is acquiring information. The applicants can obtain information about the vocational housing program from, the organization's headquarters, any existing vocational housing site, schools, libraries, or satellite city hall. There are also a variety of means of obtaining the information, such as, the organization's website, hotline, application/pamphlets, films/video, and seminars/counseling. The key to this approach is to use all possible means of providing the opportunities publicly, so that it is accessible to the homeless.

The third illustration (Image 12) introduces the application process. Once a candidate shows interest and has retrieved all of the necessary information, he/she will need to fill out an application and submit it to the organization. Counseling sessions are available to help in the decision making. Candidates are interviewed to discuss their vocational selections. Then the applications are reviewed, applicants are placed in the appropriate vocation of their choice and attend a introductory workshop, where they meet their peers. New applicants are taken to their vocation site for a tour of the facilities and home assignment. The new residents move in to their new home and meet their neighbors and organization staff. Completing the application process, the resident is introduced to their mentor. The mentor becomes the support and guide for the homeless individual to refer to for advice and friendship. The application process is intended to gradually begin the social interaction phase, where the homeless learn to become comfortable with meeting new people in new environments.

The fourth illustration (Image 13) displays two types of training that engages the mentor and homeless resident: Vocational Training and Life Skill Training. The mentor's responsibility is to train, educate, and befriend the homeless resident. The peer-to-peer learning builds trust in relationships, because the mentor has been in the same shoes as the homeless and are a living example of success and inspiration. The vocational skills help to build self-esteem and pride. The experiences gained can be applied in future endeavors. In addition to vocational training, the homeless residents are required to learn general life skills to help them live independently and to care for themselves (and family) properly. The mentors can help to guide the residents through the process, so they develop an awareness of the available services.

Based on research, chair discussions and committee meetings, the homeless individual will need to develop certain qualities (i.e. self-empowerment, a higher self-esteem, an identity, giving/receiving respect, and having a sense of belonging) in order to understand their role and responsibility within society. The vocational housing program presented in this document is intended to provide the opportunities to develop these qualities by through on-site social interaction.

Stated earlier in chapter 3, the vocational housing proposal was inspired by two main concepts: huli from kalo harvesting (mentorship) and the ohana (family fostering). In order to implement this concept, the vocational housing proposal needs to physically provide spaces for mentoring and fostering to occur. In order to implement the integration concept to each site, the surrounding context and site would need to be analyzed. In addition, the vocational facilities would be accessible to the neighboring community, schools, and public to use. By transforming the sites into vocational and communal spaces, direct interaction would be encouraged and help the homeless feel more comfortable with their surroundings, as well as a better understanding of their role within the community.

The following are potential vocational opportunities for the district of Waianae and any rural community interested in the application of this concept:

- Artisan (Wood, Metal, Stone, Glass, Paper, Textile, Furniture Making, etc.)
- Artist (Visual, Drawing, Sculpture, Ceramics, Textile, Graphic, etc.)
- Barber or Hairstylist
- Blacksmith
- Butcher
- Cobbler (Shoe Maker)
- Construction (Wood, Metal, Concrete, Glass, Masonry, Plaster, Stone, etc.)
- Cottage Industry (Domestic System)
- Culinary Arts (Bakery, Restaurant, Café, etc.)
- Electrician
- Farmer (Crop, Livestock, Soil/Water Consevation, Food Education/Nutrition, etc.)
- Food Processing/Packaging
- Heavy Equipment Operator
- Jeweller
- Locksmith
- Painter and decorator
- Performance Art (Dance, Music, Story Telling, Theater, Film/Television, etc.)

- Plumber
- Recycling Center (Paper, Glass, Plastic, Building Materials, etc.)
- Mechanic
- Tailor
- Tourism (Transportation, Accommodation, Entertainment, etc.)

The goal is to inspire and motivate the homeless to empower themselves through developing independent work skills or products that they are proud of and to interact with the community. The opportunity for a job is made available for those who seek work. The individual must have the desire to want to make a better life for themselves. The purpose of this document is to introduce, inspire, and guide the homeless to these opportunities.

5.4 Conclusion

The purpose of this chapter is to introduce the concept of the vocational housing program. The site and scenario set the platform of the project outcome. The description provided should help to give a better understanding of the concept and its application to potential sites. The information within this chapter is intended to educate the reader on a possible approach to engage the community and homeless population. The following chapters will go into depth about the design application of integration with specific site examples.

To better understand the vocational housing program proposal, three sites have been selected in the Waianae ahupua'a and were assigned a specific vocation based on their location. It is hoped the examples presented in this document will serve as a clearer means to understanding the potential of this proposal and encourage programs between the proposed vocational housing sites, schools, and public to weave together and strengthen the ties within the community.

Chapter 6

DESIGN APPLICATION: SPATIAL ANALYSIS

CREATING ZONES OF INTERACTION OFF SITE

6.0 Introduction

In order to implement the vocational housing program as a possible solution to the homeless problem, Zones of Interaction must be established. Therefore, this chapter proposes three specific sites within the Waianae district to serve as example studies to understand the needed applications. The following two chapters provide illustrations that show the application of these methods and how the homeless can directly interact with the community. The chapter will begin with an introduction to the six methods of the Zones of Integration, followed by a detailed description of each method. It is hoped the explanations provided in within this chapter will help others to develop an awareness in spatially analyzing potential sites to apply the concept.

6.1 Zones of Integration (Six Methods)

The Zones of Integration is a method of effectively integrating a site through spatial analysis. There are a variety of methods to analyze a site. This chapter introduces a sequence of six approaches: (1) Zones of Activity, (2) Spatial Relationships Study, (3) Zone Edge Condition: Off Site, (4) Zone Edge Condition: Onsite, (5) Program Spaces, and (6) On Site Program Application. The sequence begins with an overall site analysis of the three locations, followed by an in depth study of each site. Each method will describe its purpose and an example to help understand the approach. Examples for the latter three methods will be described in chapter 7.

6.2 Method 1: Zones of Activity

The purpose of this method is to evaluate the sites and their surrounding neighborhood context. The intention of this study is to understand the types of activities that occur around the

selected sites, as well as their relationships between each other. The activities of the neighborhood context include: residential educational, communal, commercial/vocational, and recreational. Each listed activity indicates the type of relationship the selected site and its neighbor should share. The information learned from this study will influence the following five methods.

Based on the location of each site and its surrounding context, a vocational assignment is proposed. The proposed vocational activity/housing of the site is intended to connect and integrate the facility/residents into the neighborhood/community. To gain a better understanding of this approach, the following illustration will explain the method in detail, using the selected site as an example.

The following illustration (Image 14) locates the selected sites with respect to the main artery (Farrington Road), smaller streets, river, and ocean. The hatching patterns on the illustration help to graphically indicate the surrounding types of activities and help to determine the planning of the site in the following 5 methods.

Within this illustration, the Farrington Highway site is immediately adjacent to residential and educational (Waianae Intermediate School) activities. Across the street are communal facilities (Waianae Regional Park, Waianae Public Library, Waianae Community Center, etc.). The Plantation Road site is primarily surrounded by agricultural activity and a residential neighborhood across the road. The McArthur Street site is adjacent to a school (Waianae Elementary School), communal activity (local church), commercial services, and a residential neighborhood.

6.3 Method 2: Spatial Relationships Study

With the Zones of Activity established, this next method explores the potential/existing spatial relationships between sites. The purpose of this exploration is to understand the types of activities that can occur to strengthen the relationship of the selected site and surrounding neighborhood. The spatial relationships study can provide clues to integrating the site and homeless population by evaluating how interaction can occur between locations and the support each site can give to each other. The types of activities that can occur from the spatial relationships are: educational/communal, communal, recreational, and business related.

The following illustration (Image 15) diagrammatically locates the selected sites and neighbors with respect to main roads and the river. The graphic notations indicated on the drawing display the types of activities that can occur between sites.

For the Farrington Highway site, communal activities were assigned to the community center and residential locations. The author identified a need for the homeless population to

connect with the local community through a common activity space (i.e. gathering, site access, etc.) Educational activities connected the site to the adjacent school, public library, and residential neighborhood. The opportunity to expand educational knowledge occurs in two directions: the homeless can learn from and teach the community. Establishing this relationship is important because it builds confidence, pride, and trust between groups. A recreational activity connection to the site would allow an opportunity for public engagements. This selected site provides the possibility of strengthening relationships between locations on three levels: homeless to homeless, homeless to local community, and homeless to public.

For the Plantation Road site (with similar reasons as the Farrington Highway site), educational/communal activities were connected to residential neighborhoods. Agricultural and educational activities linked to agricultural sites, because the author perceived vocational environments could exchange business and knowledge to operate in cooperation and not competition. The main goal of this proposal is to integrate the selected sites with the existing neighborhood, by encouraging collaborative efforts between the homeless and the community. Recreational activity was also linked to the Plantation Road site, because it was important to have the homeless connect to society on a local and public level. The types of recreational activity cannot be defined until the program spaces have been determined.

Similarly to both Farrington Highway and Plantation Road, the McArthur Street site consists of the same spatial relationship connections. Since Waianae Elementary School is adjacent to the site, educational activity is important. The neighboring residences would need communal and educational associations with the site. Since the McArthur property is adjacent to commercial activity, the site should take advantage of business opportunities.

6.4 Method 3: Zone Edge Condition: Off Site

After obtaining an understanding of the surrounding context and potential spatial relationships between the selected sites and neighboring properties, a look at the zone edge condition of each selected site can illustrate potential activities that could occur along the property line. This awareness can aid in the planning of program spaces within the site because it looks at immediate conditions along the property edge and provides opportunities for the site to be integrated along the perimeter. The off site zone edge conditions become a transitional buffer space prior to entering/exiting the selected sites that is intended to blur the boundaries between properties.

The following illustration (Image 16) diagrams the zone edge condition for each selected site. The activities of the neighboring sites are hatched to graphically indicate the location for potential social interaction to occur.

In the first diagram (far left), the schools and residential neighborhoods located next to the Farrington Highway site encourage the design for direct access into the property. The access points open the site to the public and welcome the community to enter and use the communal amenities to encourage social interaction. Buffer zones are proposed to serve as intimate gathering spaces and observation spaces for the community to learn more about the vocational aspect of the site. Community work spaces are also proposed in this diagram to encourage public interaction through shared vocational facilities. The proposed opportunities for the public to communicate with the homeless are made available through actual interaction or observation. This opens up communication and trust between groups. In this study, sharing property is builds a reciprocal relationship, the neighboring sites can sometimes host activities of the vocational site. By keeping property lines unfenced allow the possibility for expanding the vocational site into neighboring properties temporarily.

The next diagram (middle) focuses on the Plantation Road site. In this drawing, example zone edge conditions include, educational learning, buffer green spaces, communal areas, and observational activity. From the vocational standpoint, the neighboring agricultural lands provide opportunities for learning/teaching to occur between sites. These opportunities strengthen the relationship between groups, sites, and business transactions (marketing and sales). Similarly to the Farrington Highway site, the buffer green spaces are intended to blur the property line and are designated for intimate gathering spaces open to the public. In addition to the buffered spaces, communal areas are located within the residential area of the site to encourage community members and residents to interact. Because the proposed vocation of this site is unique (bee farm), education and safety is important to the public and users. As a response, a safe distance for observation is recommended to allow neighbors to view the activities, but prevent from being harmed.

The last diagram (far right) evaluates the McArthur Street site. This illustration shows examples of connecting to neighboring sites by on site program placement and pathways. For example, the neighboring local church can utilize the community space and childcare facilities during service hours. Another example is opening up green gathering spaces to adjacent neighborhood residences to share park space for interaction. The site is unique because it consists of two sites separated by busy street. Therefore the pathway connections are important. A direct path from the neighboring school to the smaller site is critical in the integration concept. Connecting the residential community to the site through welcoming access points and pathways are important in supporting the concept as well. The benefit of the site is its proximity to a commercial district, which provides a new method of interaction with the public. The means of connecting the sites is important in the location and types of paths.

It should be noted that many of the zone edge conditions proposed on each of the sites can also be applied to the other sites. The intent of this study was to show a few examples of integrating the site within the community by blurring the property lines and providing welcoming spaces for communal, educational, and/or vocational purposes.

6.5 Method 4: Zone Edge Condition: On Site

Once the external conditions of the sites are evaluated, the next step in the Zones of Analysis is studying and designing for the site, internally. This section will generally describe the On Site Zone edge condition and share specific examples in chapter 7.

The illustrated examples provided in the next chapter demonstrate the approach to planning/zoning the properties by reflecting the surrounding activities into the actual site. Areas requiring interaction are highlighted and explained in an example diagram. Similar to the Off Site Zone Edge Condition study, the intention of this activity is to blur the property lines between the sites/zones by continuing the adjacent property activities onto the site, as well as, to strengthen the concept of physical integration. Overall, highly common spaces included communal and educational activities to support the project concept.

6.6 Method 5: Program Spaces

Having an understanding of the surrounding site context, vocational assignment for each location, and on site planning and zoning, the next method of approach was determining the program spaces for each site. Four categories of space types developed as a result of the earlier studies: Residential, Communal, Educational, and Vocational. The residential, communal, and some of the educational spaces are consistent for all three sites. The vocational program spaces and a few of the educational spaces are different between sites. A detailed description of the program spaces will be included in chapter 7. It should be noted that the major commonality between all vocational program spaces are the intentions of it serving as an open public learning/training facility.

6.7 Method 6: On Site Program Application

The last method in the Zones of Integration is On Site Program Application. The purpose of this study is to architecturally apply all of the earlier methods onto the actual selected site. The building locations, pathways, access points, gathering spaces, buffer zones, and projected activities are all incorporated into the site plan. The illustrations show diagrams and descriptions of how each area within the site can be utilized to physically integrate the selected site and its

residents into the neighborhood. The generalized manner in explaining these applications should help the planning and organizational approach for future sites in other locations.

6.8 Conclusion

The main point of the proposed methods is to bring awareness to design planning and applications. There are a variety of means to approach the design and the method just presented in this chapter is one example. The sequence of this method begins from a macro scale to help understand the site and its surroundings. Throughout the process, the focus of the spatial analysis becomes narrower to the specific. The simplified gradual step-by-step approach of this method should be feasible by any individual interested in learning to develop design applications for a site. It is hoped the presented methods in this chapter will be successful in encouraging social interaction between the homeless and community. The following chapter will introduce each site in detail and use the latter three methods to describe the process with specific examples.

Chapter 7

DESIGN APPLICATION: SELECTED SITES

CREATING ZONES OF INTERACTION ON-SITE

7.0 Introduction

The purpose of this chapter is to apply the spatial analyses methods (Zone Edge Conditions, Program Spaces, and On-Site Program Application) to specific sites in the Waianae district to strengthen the concept of physical integration. To gain a better understanding of how the vocational housing projects would operate and integrate with the local community, three sites within the Waianae ahupua'a were selected. Based on the vocational opportunities listed in chapter 5, each selected site focuses on a skill that could be learned by the homeless residents and local community. The intent of the site examples are to explore the possibilities of interacting the homeless with the local community through spatial analysis.

All sites provide multi-family housing. The following illustration (Image 17) briefly introduces three selected sites and the given vocational assignments.

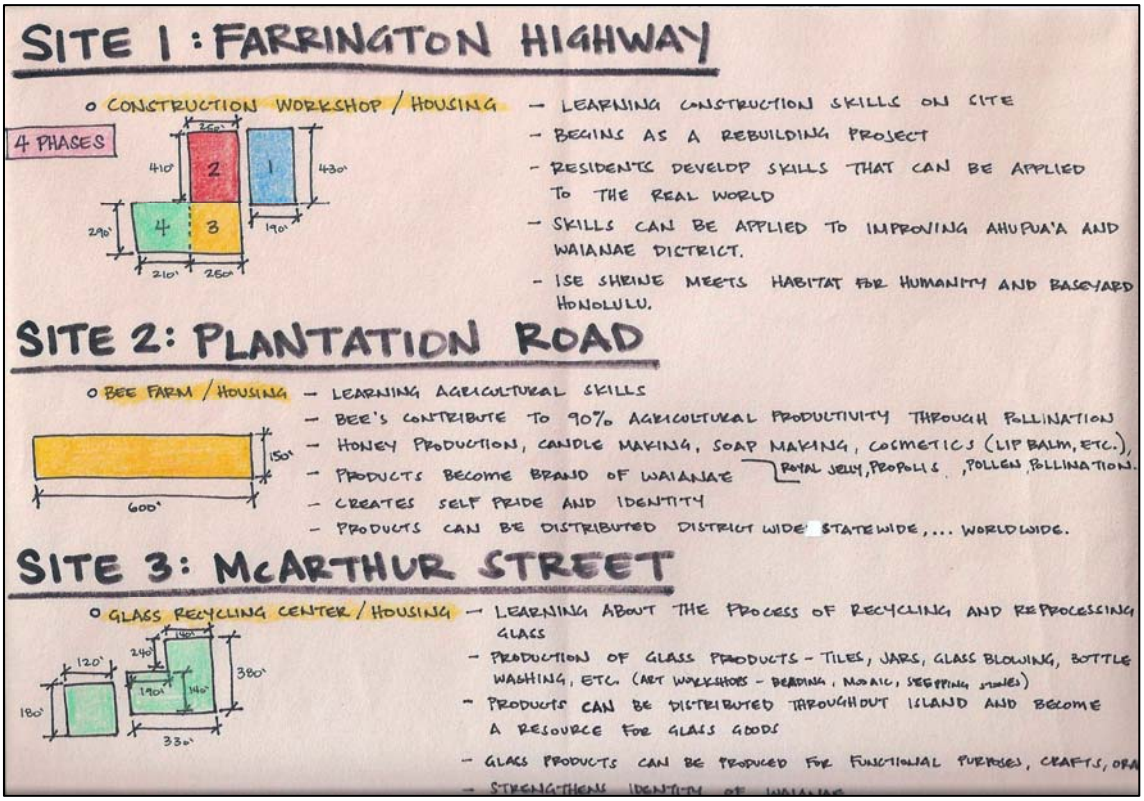


Image 17

The first site proposes a construction workshop on State-owned property by Farrington Highway. The purpose of the workshop is to provide opportunities of learning construction methods on-site and help residents to develop skills that can be applied to the real world. Ise Shrine (a well-known Shinto shrine in Japan that is rebuilt every 20 years on adjacent sites) inspired the vocational assignment of the construction workshop. The idea for this site is to begin as a rebuilding project, where the skills learned are applied to improving the site. Once the site has been developed, the skills that the residents acquire can be applied to help improve the ahupua'a, district, and other locations on the island.

The second site proposes an apiary (bee farm) that is located on Department of Hawaiian Homelands (DHHL) owned land by Plantation Road. The purpose of the bee farm is to provide opportunities for the residents to learn agricultural skills. According to research, bees contribute to 90 percent of agricultural productivity through pollination. Many agricultural farmers hire bee farmers to pollinate their crops through mobile bee hives. In addition to agricultural services, the bee farm produces a variety of products (honey, candles, soaps, cosmetics, royal jelly, propolis,

pollen, etc.) that can be processed and distributed in market. The products become a brand of Waianae that the homeless develop a sense of pride and identity in their work.

The third site proposes a glass recycling center/glass making studio on State-owned land by the intersection of McArthur and Mill Street. The purpose of this facility is to educate the residents about the process of recycling and reprocessing glass, as well as, to encourage community involvement. The glass products that are produced from this facility (i.e tiles, jars, glass blowing/art, bottle washing, etc.) can be distributed and marketed as a product of Waianae. This facility has the potential to bring an identity to the district by making it a resource for glass goods. Similarly to the bee farm, the products that the facility processes help the homeless develop a sense of pride and identity in their work efforts.

If implemented, the benefit of all sites is the value that it brings to the community. The services provided and opportunities of including the community to participate in the activities are the intentions of this proposal. The proposed vocational facilities are a not only a source for work, but also for community and learning development. Each of the following sections will describe the physical characteristics of the site, the vocational assignment, and the applications of the latter three zones from the spatial analysis of the Zones of Integration. It is hoped the site examples will give a better understanding of the proposal and its intentions to become a feasible project.

7.1 Farrington Highway (Construction Workshop)

The first site is located on the main traffic artery in Waianae, Farrington Highway. The selected site is conveniently located between the Waianae Community Center and Waianae Intermediate School. Across the street are the local public library, fire station, and recreational park. Surrounding the site are smaller residential houses. The land is currently owned by the State of Hawaii and consists of three rectangular parcels located in the R-5 zone. The first parcel (190’ x 430’) is located behind (Mauka) the Waianae Community Center. The second parcel (250’ x 410’) is adjacent (Leeward) to the first parcel and is currently occupied by an affordable housing complex, Kauʻlokalani. The third parcel (460’ x 290’) faces Farrington Highway and is located in front (Makai) of the second parcel. The third parcel currently houses a newly built emergency shelter, Paiʻolu Kaiāulu.

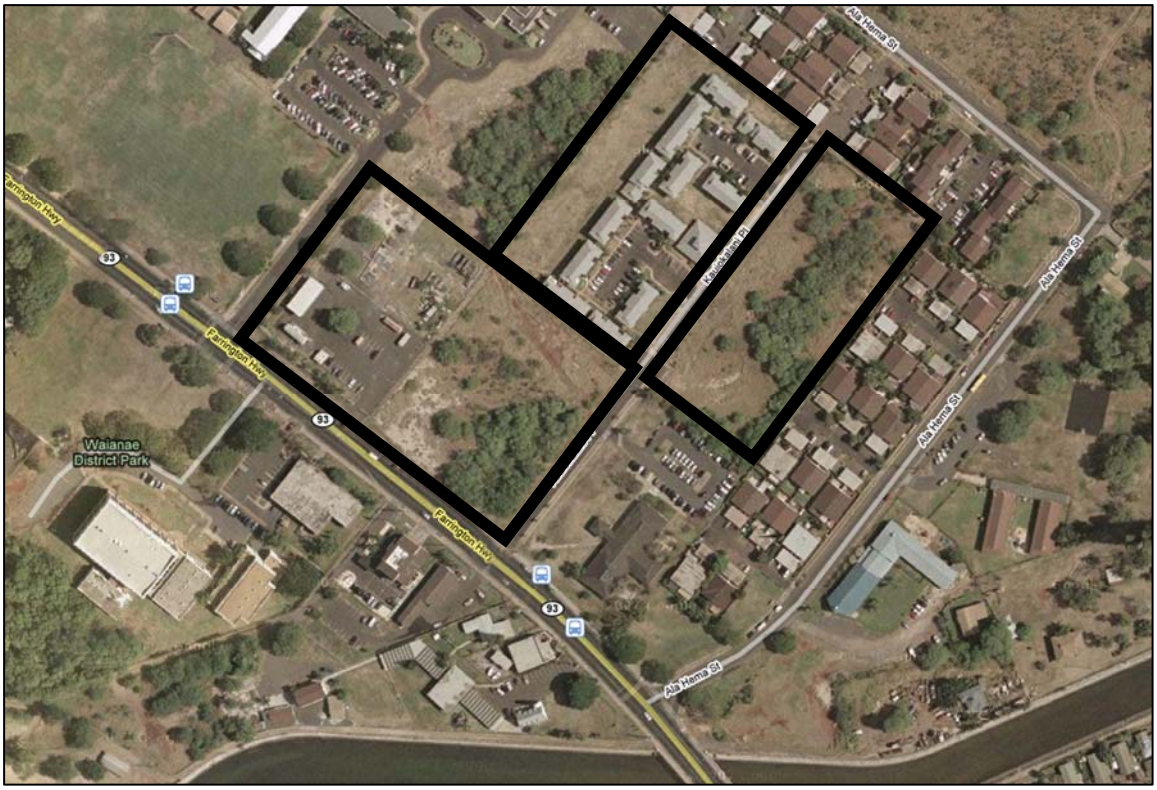


Image 18 courtesy of Google maps

The following illustration (Image 19) provides an introduction to the construction workshop activity. The original format of this illustration was to serve as an educational tool for the vocational housing candidates and others understand the equipment and activities involved in the work of interest. For the purposes of formatting the illustration into this document, the original size of the drawing was divided and organized into three sections.

The first section illustrates the equipment needed for the construction workshop (Image 20). The intent of this drawing was to serve as an activity coloring booklet that educates the reader about the tools needed to operate this facility.

The next section of the illustrations re-evaluates the site by studying the On-Site Zone Edge Condition (Image 21). From the image displayed, the site is primarily divided into two parts: residential and vocational. The residential area primarily focuses on the communal activities between residents and the neighboring community. Based from this study, two types of communal spaces would need to be developed to encourage social interaction between the two groups. Due to the location of the vocational area, it is noted that educational and communal spaces would be needed to further integrate the site into its surroundings. An educational space

will encourage students and workers to converse, mentor, and share knowledge about construction. The communal space between the Waianae Community Center and the site proposes an observation area for interested individuals to view the operations of a workshop. There are varying levels of interaction and providing the opportunity for others to gradually introduce themselves to a facility through observing is at least a start. If the site provides a welcoming environment, it will have a greater chance of becoming integrated into the community. The purpose of the study methods is to explore all possibilities that can help the homeless become accepted into society.

The third section of the illustration introduces the Program Spaces and On-Site Program Application (Image 22). Stated in chapter 6, the Program Spaces consist of four categories: Residential, Communal, Educational, and Vocational. The common categories that all three sites share are the residential and communal spaces. The educational spaces vary and are dependent on the vocational activity. All three sites propose the same residential and communal spaces to the program. The following two paragraphs will describe the Residential and Communal spaces for all three sites. The differing Educational and Vocational space, will be included in their respective site sections.

The Residential category, consist of housing, gathering, parking, and childcare/playground spaces. Housing refers to multi-family living units that are divided into two space types: shared and private. In supporting the concept of mentoring and fostering, the shared spaces are intended for interaction between families. These spaces include the kitchen, dining room, living room, lanai, and study rooms. Although this concept encourages social interaction, the homeless need a personal space they can be completely comfortable in. Living on the streets, provide no privacy for these individuals which can result to mental and emotional instability. Therefore the need for privacy is important for well-being of the homeless and others. Gathering Spaces are located throughout the site in three variations: large public, medium semi-private, and small private spaces. The intention of these spaces is to encourage interaction with the community and between residents. The large public spaces are located in major accessible locations of the site. These spaces are available to the neighboring communities to encourage communication between groups. The medium semi-private spaces are located near the residential area of the site. The intention of the spaces is to encourage a sense of community between on-site residents. The small private spaces are contained between living units to strengthen the relationships between families. Parking must be provided for the residents and located conveniently on site. Childcare services and a playground should be available on all sites to support homeless families.

The Communal category, consist of gathering spaces, a main office, parking, restrooms, childcare/playground spaces, and pathways. The communal spaces are intended to encourage interaction between the residents and public. The major gathering spaces have been described in the previous paragraph, however, there are other types of gathering spaces that occur on the site, buffer zones and pockets of space. The buffer zones are transitional spaces along the perimeter of the property-line. The pockets of space are similar to the buffer zones and provide an opportunity for people to utilize. These spaces are accessible to the public and creates an open and welcoming feeling to the site. The main office is the link between the homeless and public. Any on-site or program related concerns can be brought to the main office's attention. Therefore, the location of the main office should be conveniently located between the on-site residential and public spaces. Described earlier, parking would be needed for the visitors, too. As a convenience for the users and visitors of the site a public restroom would be required. The availability of these facilities to the public helps to recognize their presence and encourages their involvement in the program. Childcare services and playgrounds would be an opportunity for on-site resident children (and their parents) to meet other children (and parents) who live in the area. Providing childcare services to the community will reinforce the idea of integration. The community will utilize the facilities provided on-site and interact with the residents. Pathways are an important means of integrating the site into a neighborhood. The pathways can be used to connect the selected sites with their neighboring communities, as well as, connecting the surrounding properties to each other.

The Educational category for the construction workshop, consist of classrooms, a library, storage, and restroom. The educational spaces were created to support to vocational program and to encourage community involvement. The classrooms are to serve as meeting spaces for the workers, neighboring students at Waianae Intermediate School, and community to obtain training in the workshop. The library will serve as a resource center for the workers, students, and community. General storage will be required for the educational program space. The restroom will also be needed for the same reasons described earlier.

The Vocational category for the construction workshop, consist of workshops, storage, loading dock, and smaller workshop. The vocational spaces help to maintain the housing site as a self sufficient facility and help the homeless learn skills they can use for the rest of their lives. The vocational spaces provide opportunities for the homeless and community to learn about work skills and each other. The workshop consists of two types of spaces: construction and assembly. The construction space is intended for activities that involve measuring, cutting, sanding, and pre-drilling all building components. The assembly workshop is used to put the pieces together for efficient construction. Three types of storage spaces are needed in the vocational category:

materials, personal belongings, and supplies. The material storage is the largest of the three spaces, because it contains all of the building materials needed for construction. The personal belongings could be lockers made available to anyone in the workshop. The supply storage is for smaller tools and materials that are readily accessible for the workers. The loading dock should be located near the materials storage and workshops to easily transport items to and away from the site. A smaller workshop is proposed as a hand on classroom that is open to the public and students in the neighboring school to use that would not interfere with the productivity of the main construction workshop. Smaller personal projects can be constructed in this workshop.

The last method, On Site Program Application is provided in the following illustration (Image 22). Using the previous Zones of Integration methods and research as a guide to the planning of this site, the attached drawing highlights three major spatial experiences that support the vocational housing site as an integrated entity. The first analysis was the evaluation of gathering spaces. The designated residential area of the site was large enough to accommodate all three gathering space types described earlier. The diagrams indicate the means of interaction between spaces and linked are short text descriptions of the intent. The second analysis looked at the cross site pathways that linked the school, residential community, and access to Farrington Highway by means of the site. Providing convenient access ways to major areas of the surrounding context strengthens the integration concept. The pathways encourage the residents and neighbors to utilize the site and interact. An important aspect of integrating a site is the welcoming factor. The environment must be inviting to encourage interaction. This direct interaction will help the homeless become comfortable with others. The illustrated diagram and description generally describes this concept. The third analysis highlights the opportunity for outdoor gathering spaces as another form of encouraging interaction. The location of the outdoor gathering space specifies the types of users that could interact. The current location of the gathering space indicated on this illustration is adjacent to the workshops, classrooms, and school, which is intended for the workers, students, and public (who use the small workshop) to have the opportunity to interact.

7.2 Plantation Road (Apiary – Bee Farm)

The second site is located on one of the main roads that lead into Waianae Valley, Plantation Road. Slightly tucked into the Waianae ahupua'a, this site is located near the Waianae Convenience Center (refuse disposal site) and across the street from a residential neighborhood. The land is owned by Department of Hawaiian Homelands (DHHL) and consists of one parcel (600' x 150') that is located in the AG-2 zone.

Image 23 courtesy of Google Maps

The proposed function of this site is an apiary (bee farm). The goal for this selected site is to encourage the homeless to harvest, process, and package a product that required their full involvement to help them develop as sense of pride of accomplishment. Unlike other agricultural related vocations, bee farming requires a level of safety. The homeless who choose to become bee farmers will be the specialist who must take on the responsibility to educate their neighbors and public about safety measures. Due to the unique activity for this site, education plays an important role that must be incorporated into the daily living and work routine.

Similarly to the construction workshop, the following illustration (Image 24) provides an introduction to the bee farm activity. The original format of this illustration was to serve as an educational tool for the vocational housing candidates and for others to understand the equipment and activities involved in the work of interest. For the purposes of formatting the illustration into this document, the original size of the drawing was divided and organized into three sections.

The first section (Image 25) illustrates the basic equipment and tools needed to operate a bee farm. The readers can color the images on the document to familiarize themselves with the equipment.

The next section in the illustration re-valuates the site by studying the On-Site Zone Edge Condition (Image 26). The drawing indicates two major divisions in the site (vocational and

residential), however, the analysis conducted, stresses an importance in education as a means to connect the two functions. Two types of education must occur on the site: educating the homeless residents and community. The first education type is community learning which involves classroom and observational experiences. The community/public are taught about the bee farming process, but are kept at a distance from the actual activity. The second education type is residential training which involves a sequence of learning starting from in class training. The next method of training for residents is exposure training, which is similar to the observation experience of the community education. The final method of the residential training is hands on learning, which involves direct interaction with the bee hives. The third analysis highlights the opportunity for residents to develop another vocational skill in sales/marketing. Locating the sales/marketing space near the major access road allows a greater means of interaction with the public and distributors.

The third section of the illustration introduces the Program Spaces and On-Site Program Application (Image 27). Previously mentioned in chapter 6, the Program Spaces consist of four categories: Residential, Communal, Educational, and Vocational. The Residential and Communal spaces have been described in the construction workshop section. The following paragraphs will describe the Educational and Vocational program spaces.

The Educational category, consist of classroom/meeting room, processing area, storage, bee hives, and restroom. Mentioned in previous sections, educational spaces were created to support to the vocational program and to encourage community involvement. The processing area could serve as an educational space to involve the residents and community into understanding the opportunities that bee farming provides. This also allows for some hands on experience, so that a greater appreciation for the bee farming process is recognized. The bee hives are also a part of the educational experience, however, only the trained resident are allowed to interact with the bees. But everyone will have the opportunity to observe the process. Basic storage and restroom facilities would be needed for any public accessible site. The more public accessible a site is, the greater the opportunities for interaction and integration will occur.

The Vocational category, consist of an on site store, storage, process and packaging, bee hives, and a locker room. Aside from gathering spaces, the Store is one method to connect the homeless residents to the public. Sales and marketing skills will be learned and encourage public interaction on a business level. The Process and Packaging space is important in the creating and distributing of bee farming products. Mentioned earlier, this space can also be used as an educational space that can include visitors to participate in the process of honey or bee by-product creations. A locker room will be needed for workers and visitors to store personal belongings and to wash off fragrant scents that may attract bees. The bee hives are an important

component of the vocational function of the site. The bee hives contain all of the products that is to be processed and marketed (i.e. honey, beeswax, royal jelly, propolis, etc.) The hives should have the capability to be mobile, so that it can be transported to and pollinate in other agricultural lands. General storage is needed for supplies, tools, and products.

The last method, On Site Program Application is provided in the following illustration (Image 27). Using the previous Zones of Integration methods and research as a guide to the planning of the site, the attached drawing highlights four major spatial experiences that support the vocational housing site as an integrated entity. The first analysis looks at the different types of gathering spaces provided on site. A previous section (7.1 Farrington Highway) described the different types of gathering spaces under the Program Spaces-Communal spaces category. The diagrams and descriptions illustrate simple methods of interaction in semi-private, private, and buffer zones. The second analysis points out the importance of a protective barrier between the bee farm activity and public to provide a safe environment for everyone. The third analysis studies three of the educational and vocational spaces: classroom, processing and packaging, and store. These spaces are important because they connect the homeless with the public. They are the critical spaces of social interaction. The fourth analysis illustrates two types of access to the site: public and private. The location and size of the entry way can inform the public and users about the type of access ways are available to them. The residential access is narrow, intimate, and located on a small street, whereas the public entrance is located on the main road (Plantation Road), next to the parking, and direct access to the communal facilities.

7.3 McArthur Street (Glass Recycling Center and Glass Making Studio)

The third site is located one block Mauka of Farrington Highway on McArthur and Mill Streets. . The land is currently owned by the State of Hawaii and consists of two parcels located in the A-2 zone: a large “L” shape and small rectangle sites. For the purposes of this description the sites will be referenced as “large” and “small.” The large site is located next to the Waianae Elementary School and a local church. Residences flank the north and south sides of this site. Communal spaces occupied the north side of the smaller site. To the west are commercial districts and south are residences. The large parcel (140’ x 380’ x 330’ x 140’) sits on the intersection of McArthur and Mill Streets. The small parcel (120’ x 180’) is across the large site on Mill Street. The properties are currently occupied by the Waimaha Sunflower Public Housing.

Image 28 courtesy of Google Maps

The proposed function of this site is a glass recycling center and glass making studio. In order to promote the self-sustainable aspect of the district from the Waianae Sustainable Communities Plan, a recycling center should be available within the community. This recycling center can help to strengthen a neighborhood by through efforts of a common interest in sustainable living. The materials collected from the recycling facility can be reused to create a variety of products: art, containers, aggregate, or tiles for local businesses utilize.

As described earlier by the construction workshop and bee farm, the following illustration (Image 29) provides an introduction to the glass recycling and making activities. The original format of this illustration was to serve as an educational tool for the vocational housing candidates and for others to understand the equipment and activities involved in the work of interest. For the purposes of formatting the illustration into this document, the original size of the drawing was divided and organized into four sections.

The first and second sections (Images 30 and 31) illustrate the required equipment and tools needed to operate a glass recycling facility and studio workshop. The readers have the option of coloring the images on the document to better familiarize themselves with the equipment.

The next section in the illustration re-evaluates the site by studying the On-Site Zone Edge Condition (Image 32). Based on the neighboring context, the drawing indicates that the large site should be primarily residential, however an access way should be provided through the site to connect the school to the small site. Also, the neighboring church also suggests a communal area on the large site. The small site is influenced by communal and commercial activity. It is proposed to designate the small site to be the glass recycling facility and glass making workshop. The analysis highlights the need for education for both large and small sites. The large site indicates a need for education between the residential and communal space. Education is an important aspect of the program, because it is the stepping stone to developing a stronger understanding between the homeless and community. If more educational space is needed, the communal area can be flexible to serve as additional space. The small site's need for an educational space derives from the combination of the recycling facility and glass workshop. The users of both facilities can learn from each other. The last analysis for this study is the communal space needed to connect the sites, since Mill Street currently divides the property. Two propositions are given, the first is to highlight the entry to both sites and to line them up, the second is to determine what each site lacks and has to support their neighboring site. These proposals will strengthen the connection to both sites and help it become a single entity.

The third section of the illustration introduces the Program Spaces and On-Site Program Application (Image 33). Previously mentioned in chapter 6, the Program Spaces consist of four categories: Residential, Communal, Educational, and Vocational. The Residential and Communal Spaces have been described in the construction workshop section. The following paragraphs will describe the Educational and Vocational program spaces.

The Educational category, consist of classrooms, workshop, storage, and restrooms. The reasons for educational spaces are to support the vocational program and to encourage community involvement. Classrooms, Storage, and Restrooms are similar to the previously described sites and will not be discussed in this section. However, the Workshop is unique to this Program. An important feature of the Workshop is that it allows hands on experience with the material and tools. This environment is conducive to learning and social interaction between the residents, community, youth, and visitors.

The Vocational category, consist of the recycling center, glass making workshop, storage, loading dock, and packaging/distribution spaces. The recycling center will encourage the community to recycle their glass products and learn more about the process. The glass making workshop is a hands on activity that the residents and community can participate in. The workshop can hold classes and teach others about glass making, and/or produce glassware to sell to the neighboring commercial district or other locations. The Storage is designated for glass

cullet that can be distributed to other glass manufacturers or used by the glass workshop. The Loading Dock is needed to transport the material in or out of the site. Packaging and Distribution space is needed to organize the recycled material and prepare it for shipment.

The last method, On Site Program Application is provided in the following illustration (Image 33). Using the previous Zones of Integration methods and research as a guide to the planning of the site, the attached drawing highlights two major spatial experiences that support the vocational housing site as an integrated project. The first analysis highlights the importance of a cross site pathway, especially in this particular case where the property is divided by a street. The second analysis evaluates the location of the communal space, which is currently placed between the local church and residential area. Three scenarios are proposed. The first, is the church can utilize the communal space during services. The second, is allowing all surrounding zones of activity to have access to the communal space. The third, is opening the services of childcare to the community to allow interaction between families.

7.4 Conclusion

It is hoped the in depth analysis of the selected three sites will help to gain a better understanding of the Zones of Integration methods proposed in chapter 6 and the potential of the project concept. The goal of this project is to provide a possible solution to helping the homelessness issue through vocational housing. The vocational aspect of the program is intended to encourage the self sustainability. The project outcome was influenced by many factors, but a major component was the Waianae Sustainable Communities Plan (WSCP), because it was the culmination of Waianae district representatives describing their ideal scenario. The author could not address the entire WSCP proposal, but only apply relevant information in the project to support it. Should this project be utilized in the future, the proposed concepts and sites are merely examples that could inspire others to further evaluate a site and develop a environment that suits the context and community.

Chapter 8

CONCLUSION

A REFLECTION OF THE EXPERIENCE

8.0 Introduction

This conclusion will explore two outcomes: the practical application of the vocational housing concept and the educational value gained from this DArch project.

The vocational housing concept proposes one of many possibilities that could help resolve the homelessness issue. Physically integrating spaces for social interaction within and around a selected site is the first step to encourage communication between the homeless population and the local community. These shared spaces serve as a common ground (neutral territory) for both groups to educate, socialize, and conduct business with each other. If applied, the success of this concept can be measured by the self sufficiency of each site and the interaction between the local community and homeless population, as well as, the concept's ability to be adopted in other locations.

The educational value gained from this DArch project includes two goals: personal intellectual growth regarding the project topic and sharing the experience of the DArch process with fellow students. Having a personal interest in humanitarian[1] related issues, the intent of this project was to explore the possibilities of connecting architectural practice/research with a community related concern, homelessness. Many challenges were encountered during the organic project process. However, the experience and knowledge gained from the process were valuable. The opportunity for open exploration into various related topics of homelessness helped to develop an understanding of the complexity for humanitarian related issues to be

[1] 'Humanitarian' is the interest of improving other people's lives through a charitable act. 'Humanitarian architecture' refers to a collaborative architectural design process and solution for communities in need.

applied architecture. The projected outcome for this project evolved from a starting point in a physical structure to a spatial understanding of human interaction.

The journey of the process and experience within the past year was filled with abundant unforgettable information, yet in the larger scheme of things, it simply served as a stepping stone to a greater and far more complicated path. This project reconfirms the author's interest in humanitarian architecture and it has brought awareness of what lies ahead. It is hoped that the information provided in this document can help others with a similar interest or to gain a perspective of one student's DArch project process.

8.1 Vocational Housing Conclusion

Homelessness is a complex problem that cannot be immediately solved, however, the proposal provided in this document serves as a guide that can help to prevent and reduce the growing homeless population through vocational housing. Although, there are existing examples of vocational housing, the intention of this project is to understand and highlight spaces within and around a site that integrate people into a community. This project proposes the concept of physical integration as a means to encourage social interaction. By providing spaces for the homeless and local community to directly interact (on site or off site through workshops, community centers, open gathering spaces, buffer zones, points of entry, etc.), the homeless population will feel a greater sense of belonging within society.

People are social beings who depend on interacting with one another. Interaction with others develops a sense of identity, compassion, and self-esteem. Much of the research related to homelessness derives from understanding social behavior and human needs within society. This study of social behavior is one of many disciplines that constitute the knowledge of architecture. The primary focus in architectural design is the user. Understanding movement, function, emotional impact, and the quality of space help architects design and create environments that are appropriate for human activity. Being sensitive in spatial understanding and having the ability to analyze how a space can be utilized leads to successfully designed environments, thereby increasing social interaction.

The Zones of Integration presented in this document reflect how potential users can interact based on the author's personal observations, first hand experiences, and general preferences. In the context of this document, the measure of success is speculative. Extensive testing on actual sites would be needed to support the concept's proposal. However, the intention of this proposal is to provide general ideas of incorporating the neglected homeless population into a neighborhood through careful considerate methods of social interaction. Although the proposal addresses specific sites in the Waianae district, it is hoped that the ideas

within this document can inspire other locations to apply a similar concept with respect to the site and context.

In order to apply the project concept to potential sites in other locations, the Zones of Interaction explore six methods of spatial analyses on three sites in the Waianae ahupua‘a. The purpose of the spatial analyses is to develop an awareness of a site and its surrounding neighborhood to determine appropriate methods that encourage integrative design and social interaction. The six methods are: Zones of Activity, Spatial Relationships, Zone Edge Condition: On Site, Zone Edge Condition: Off Site, Program Spaces, and On Site Program Application. To gain a better understanding of the six methods, as well as possible generalized applications for potential sites, the following paragraphs will describe each of the six methods followed by a supporting site example.

The first method, Zones of Activity, evaluates the selected site’s location and its surrounding neighborhood context. Based on this analysis, all sites were directly adjacent to a residential neighborhood and a combination of school, vocational, and/or communal activity. The function of each site was selected and determined by the land use type and its surrounding environment. For example, the Farrington Highway site is quite large and it is situated between a school, residential neighborhood, and public communal spaces. The connection between residents and the school were of great importance. The proposal for a construction workshop appeared appropriate because the site was large enough to accommodate both housing and small scale construction.

The second method, Spatial Relationships, evaluated the potential activities that could occur between the selected sites and their surrounding context. From this study, many of the connecting activities between the selected sites and residential neighborhoods were communal or educational. Depending on the selected site’s location and adjacent properties, other activity types include business and recreational. To better understand the purpose of this study, the Plantation Road site will be used as an example. The vocational facility that is proposed for this site is a bee farm. The main concern in operating this facility is the safety of the residents and neighbors. Therefore, education is the primary interacting activity that would occur on the site. Educating the surrounding community (residential neighborhood and agricultural businesses) about bee farming requires a communal and educational setting. Another important spatial relationship for this site is business operations. Since the Plantation Road site is situated in the agricultural district and is within close proximity to other farming lands, conducting business and educational learning is beneficial for both sites. The bee farmers can learn about crop management and provide the pollination services for a greater harvest. In exchange, the farmers can learn about bee handling and include nectar producing plants in their farm lands. Understanding the strengths and weaknesses of each site and notating how the neighboring sites

can support each other helps to define the spatial relationship and support the physical integration concept.

The third and fourth methods are Zone Edge Conditions that focus on the individual selected site and illustrate potential activities that can occur along the property line (off site and on site). The zones of activity that surround each selected site are graphically notated to indicate the general location of potential social interaction and design integration.

In the third method, Zone Edge Condition: Off Site, each of the three sites were analyzed and provided several spatial experiences that could occur, such as, multiple access points, observation/gathering spaces, buffering green spaces (for smaller informal gatherings), educational exchange, sharing communal spaces, temporary expandable spaces, and business transactions. To remain consistent with the project concept of integration, this study proposes ideas of blurring the line between properties by illustrating different methods of interaction along the perimeter of the selected site.

The fourth method, Zone Edge Condition: On Site, illustrates an approach to planning a site by reflecting the surrounding activity types into the site. The intention is to blur the property lines between sites and to strengthen the concept of physical integration. Once the site has been internally zoned, the bordering conditions between designated zones are hatched. The hatching determines the activities needed to strengthen the site as a physically integrated entity. Overall, spaces for communal and educational activities were highly common. To have a better understanding, the McArthur Street site will be used as an example for this study. It should be remembered that the site is divided into two distinct sites: large (residential) and small (recycling/glass making workshop). The larger site is zoned to be primarily residential with some communal and educational activity. The smaller site is zoned to host vocational and communal activities. The illustration notes the importance of connecting the two sites through a communal activity. A proposed method of linking the two sites, are to provide different communal spaces that support each other and a direct pathway that connects the two sites. Educational activity is also recommended for this site to encourage greater interaction between the residents, students, community, and workers. The zone edge condition studies recognize the potential opportunities of improving the site to support the concept of integration.

The fifth method, Program Spaces, is a list of programmatic spaces divided into four categories: residential, communal, educational, and vocational. These categories within the program spaces support the types of activities for a vocational housing program. In general, the residential and communal spaces are common programs for all sites. The unique program spaces under the educational and vocational categories vary according to the selected site's proposed facility. Although each facility is different, all sites provide places for learning:

classroom setting or hands-on workshop interaction. All of the facilities are open to the public to learn more about each craft.

The sixth method, On Site Program Application, assigns the program spaces directly onto the site. Building location and pathways are illustrated in the study to give an example of a possible site plan based from the studies conducted earlier. The illustration shows diagrams and descriptions of how each area within the site can be utilized to physically integrate the selected site and its residents into the neighborhood. Types of integration methods that were applied to each site include, connecting pathways running through the site to connect zones of activity, multiple access points for all neighboring communities, varying scales of gathering spaces, different types of gathering spaces, sharing community spaces with neighbors, allowing the ability to expand parts of the site onto adjacent properties, and areas for educational/observational interaction.

Although this proposal does not intend to solve the homelessness issue, it is a means to help it. The research conducted for this project and the illustrations provided in this document are examples of how the proposed vocational housing program can be applied to other locations. The development and physical integration of the site is sequenced through the six methods of spatial analysis described earlier: Zones of Activity, Spatial Relationships, Zone Edge Condition: Off Site, Zone Edge Condition On Site, Program Spaces, and On Site Program Application. The illustrations are diagrammed in a general manner to serve as a guide and to set an example of the designing process for anyone interested in applying the proposed concept. The ideal outcome for this project is to inspire and encourage thoughtful design in future homeless shelters by means of physical integration. The ability to create spaces for social interaction will not only strengthen the community, but to help the homeless become accepted members of society.

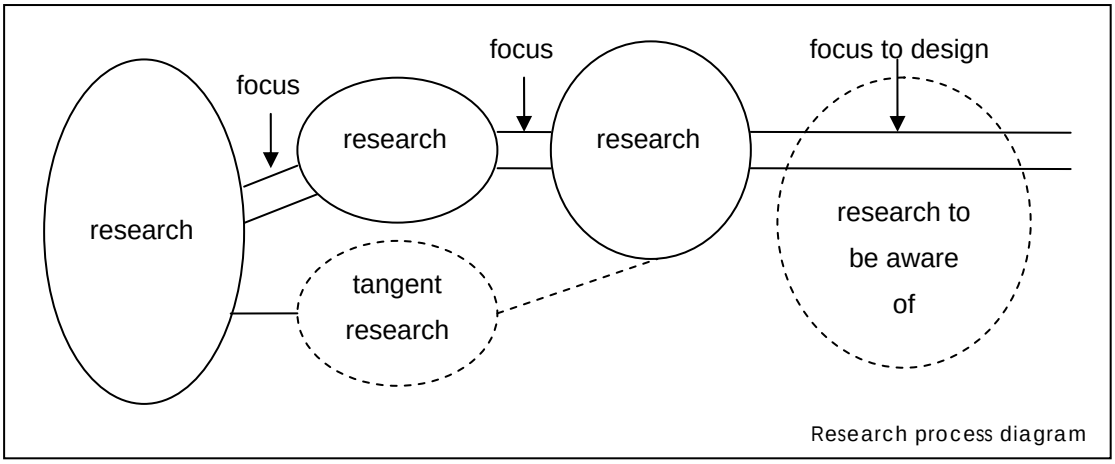
8.2 DArch Process Conclusion

Stated earlier, the intention of this DArch process incorporated two underlying goals: internal exploration (personal intellectual growth) and external dispersal of information (sharing the experience with fellow students). Although the project topic is of personal interest, the experience of the DArch process is a common ground that all students can/will relate to. It should be noted that all DArch project processes are multifaceted and this particular experience is only one perspective among many. It is hoped the information provided within this document will help others gain a better understanding of the DArch project in its current state.

The DArch is a unique and different approach to traditional research because the structure is flexible in allowing creative exploration. However, it should be understood that the extent of exploration and creativity is dependent on several factors: the project topic, methodology, chairperson, committee composition, and the desired project outcome. For this

project, the unfamiliar territory and complexity of the topic required in-depth research. The unknown expectations and the explorations occurred during the research phase of the project led to an organic learning process that evolved to become the project's methodology. This ability to creatively explore the research topic and approach was supported by the chair and committee. From this organic learning process, the main challenge was determining the project outcome.

Due to the organic path of this DArch, the proposed project outcome evolved, from a physical portable shelter design to a spatial analysis of social interactive spaces in site planning. The methodology described in chapter 4 explains the natural exploration of the topic in the research process, meeting discussions, and design approaches. The ideas and concepts developed through this process greatly influenced the project outcome. This organic learning process was a wonderful experience, but also a personal struggle. Without the typical structured syllabus and course assignments, the research became a never ending road of discovery and unexpected tangents of learning. Every meeting became a focusing session where the chair and committee would question the direction and focus of the project. Opportunities to further research were also discussed and new tangents were formed. The research phase of this project developed an organic pattern illustrated in the diagram below. The lesson to be learned in this research process was to maintain a focus on the project direction and to have an awareness of related research topics, but to not stray too far in tangent research.



Research process diagram

Image 34

For this organic learning process, it was helpful to begin a design application (see diagram below) and continue to discuss the topic in chair and committee meetings to further focus the project direction and to develop the final outcome. For this project, the chair and committee were the continuous support in this organic method of learning. The push for a design application was the major next step for this project. It was a frightening leap to begin the design

application because the project topic was so complex, it seemed as though more information needed to be obtained. However, with the limited time frame, that risk needed to be made in order to move forward in analyzing the research and proposing ideas. Since the organic method of learning provided no set structure, a design response (the “risk”) was needed to reach the project’s goal. This leap into design was a major personal challenge that took awhile to overcome. The willingness to take the risk earlier would have been a better approach.

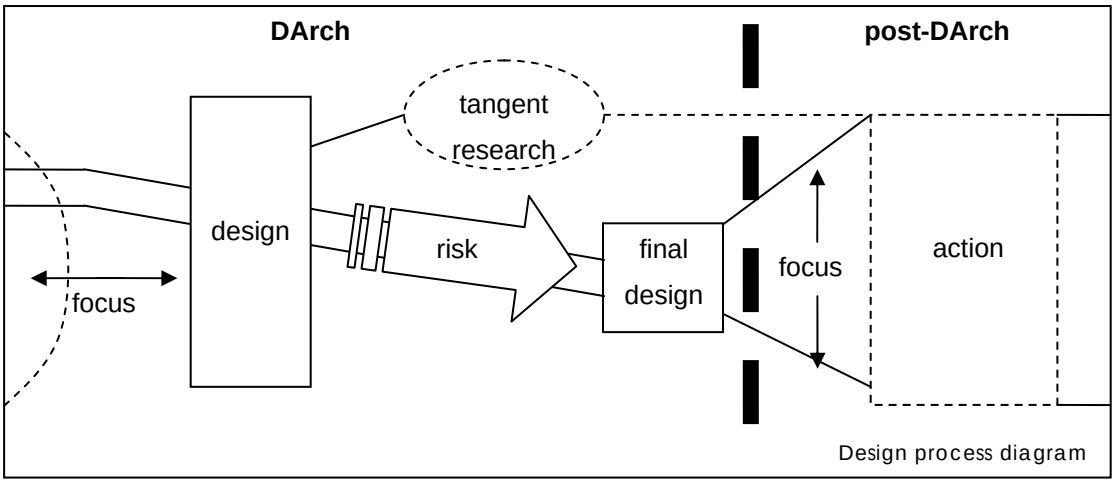


Image 35

The organic learning process for this project required a lot of flexibility and patience. This is due to the back and forth nature of the approach. In both research and design phases, reflection and speculation occurs, as well as, reconfirming information, re-evaluating design applications, re-structuring the written document, revisiting earlier proposals, planning/predicting how people may utilize the spaces proposed, comparisons to existing facilities, and so forth. Being comfortable with the unknown and the willingness to take risks are also important skills to develop when using an organic method of learning. This experience has brought a new level of awareness in research development, critical thinking, and design application.

The educational value gained from this DArch project was priceless. Although there were many challenges, the process provided a refreshing approach to address a design problem. Many of the experiences learned from this project is applicable to the architectural profession, life, and personal development. Mentioned earlier, this topic has reconfirmed a personal interest in humanitarian architecture. The outcome presented in this document, as well as the experience and knowledge acquired from this project will serve as a starting point for future endeavors. It is hoped the information provided within this document will serve as an educational tool to help

others with a similar topic, understand the DArch project, and/or to develop new methods of learning from each other.

Chapter 9

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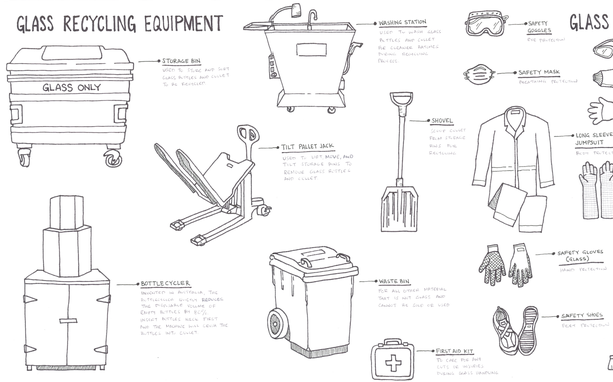
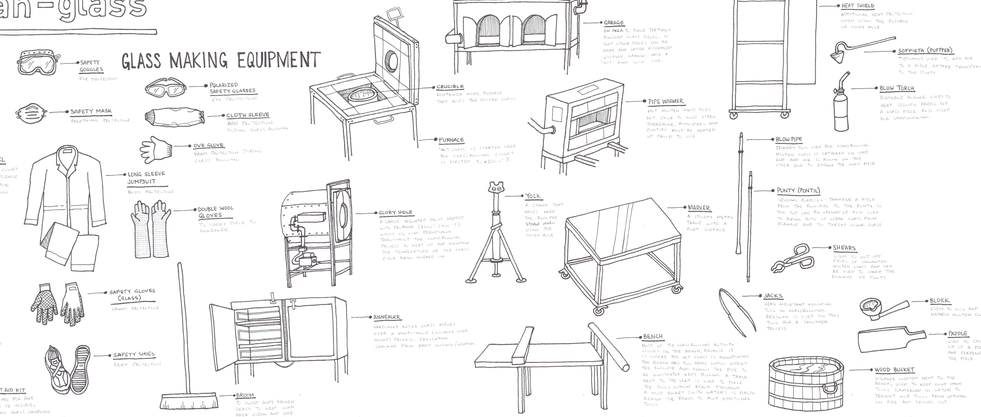
day in the life of a craftsman - glass

GLASS RECYCLING EQUIPMENT

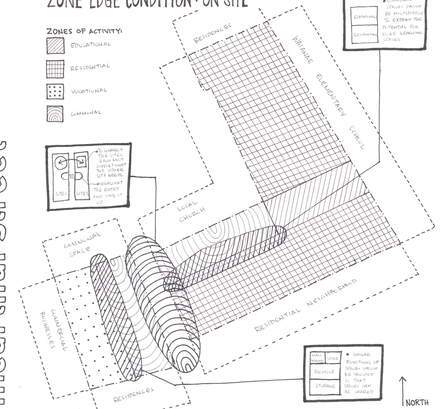


GLASS MAKING EQUIPMENT



spatial analysis: mcarthur street

ZONE EDGE CONDITION : ON SITE



PROGRAM SPACES

RESIDENTIAL

- HOUSING (MULTI-FAMILY LIVING UNITS)
  - SHARED SPACES FOR INTEGRATION
    - KITCHEN/DINING, LIVING, LAUNDRY, STUDY
  - PRIVATE SPACES
    - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - LARGE PUBLIC SPACE - SUITABLE TO PUBLIC
  - MEDIUM SEMI-PRIVATE SPACE - FOR RESIDENTS
  - SMALL PRIVATE SPACE - FOR LIVING UNITS
- PARKING
- CHILDCARE PLAYGROUND

COMMUNAL (INTEGRATION WITH COMMUNITY)

- GATHERING SPACES
  - LARGE PUBLIC SPACE/SEMI-PUBLIC SPACE
  - COVERED COMMUNITY CENTRE
- PUBLIC OFFICE
- PARKING
- RESTROOM
- RESTAURANT ACROSS SITE
- RECREATIONAL CENTER
- CHILDCARE/PLAYGROUND

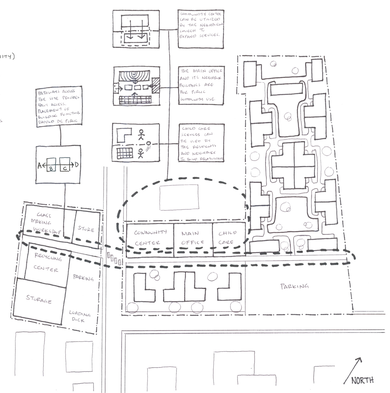
EDUCATIONAL

- CLASSROOMS
  - ONE ALSO SERVE AS A MEETING ROOM
- WORKSHOP
  - HANDS-ON ACTIVITIES
- STORAGE
- RESTROOMS

VOCATIONAL

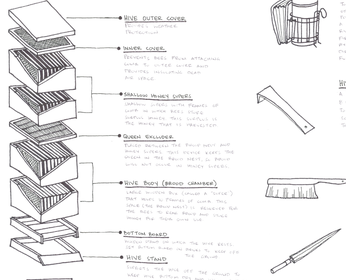
- PROCESSING CENTER
- GLASS MAKING WORKSHOP
- STORAGE
- SHIPPING DOCK
- PACKAGING/DISTRIBUTION

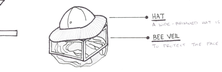
ON SITE PROGRAM APPLICATION

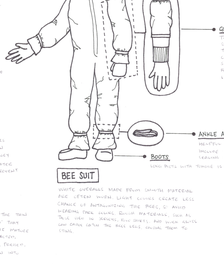


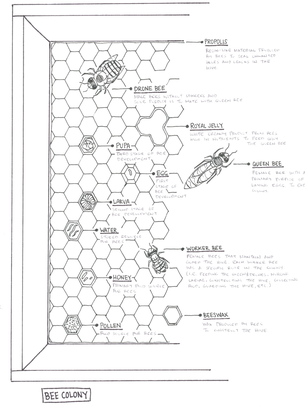
day in the life of a beekeeper

BEEKEEPING EQUIPMENT



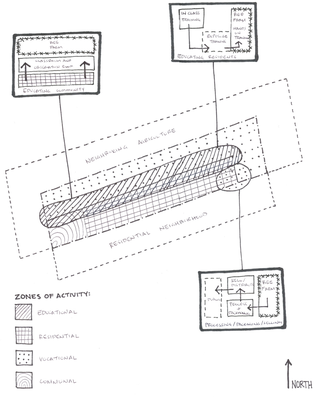






spatial analysis: plantation road

ZONE EDGE CONDITION : ON SITE



PROGRAM SPACES

RESIDENTIAL

- HOUSING (MULTI-FAMILY LIVING UNITS)
  - SHARED SPACES FOR INTERACTION
  - KITCHEN, DINING, LIVING ROOM, STUDY
  - PRIVATE SPACES
  - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - MEDIUM SEMI-PRIVATE SPACE - FOR RESIDENTS
  - SMALL PRIVATE SPACE - FOR SHARE UNIT
- PARKING
- CHILD CARE/PLAYGROUND

COMMUNAL

- GATHERING SPACES
  - FOCUSES OF GREEN SPACE
- MAIL OFFICE
- PARKING
- CHILD CARE/PLAYGROUND
- PATHWAYS ACROSS SITE
- STORE

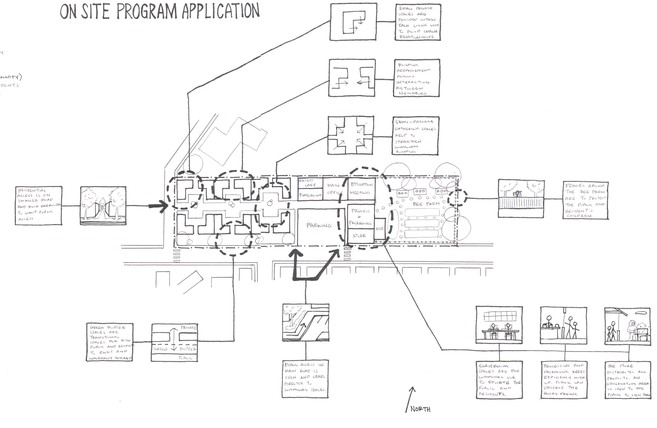
EDUCATIONAL

- CLASSROOM/MEETING ROOM
- PROCESSING AREA
- STORAGE
- BEE HIVES
- REST ROOM

VOCATIONAL

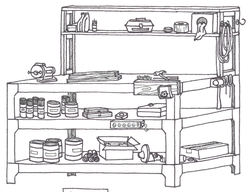
- OTHER
- STORAGE
- PROCESSING AND PACKAGING
- BEE HIVES
- LOCKER ROOM

ON SITE PROGRAM APPLICATION



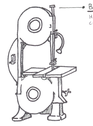
day in the life of a construction worker

CONSTRUCTION EQUIPMENT



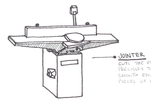
WORKBENCH

THE WORKBENCH IS MULTIFUNCTIONAL UNIT, AND OFTEN TAKES A LOT OF ABUSE. MOST PEOPLE TEND TO THINK OF THE WORK SURFACE AS A FLAT PIECE OF PLYWOOD, A VISE, OR BOTH. MANY OF THE FEATURES ARE USEFUL TO CARPENTERS, BUT ALSO TO MACHINISTS, PATTERN MAKERS, AND ANYONE WHO NEEDS A SOLID, FLAT SURFACE.



BAND SAW

MULTIPLE, OR VARIOUS PROCESSING PURPOSES OF USE OR CUTTING



JOINTER

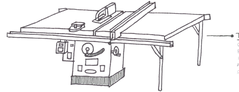
A JOINTER IS A MACHINE USED TO PRODUCE FLAT, SMOOTH EDGES FOR JOINING PIECES OF WOOD TOGETHER

MITER SAW

A POWER TOOL USED TO MAKE CUTS. SOME PEOPLE USE A MITER SAW IN PLACE OF A TABLE SAW

DRILL PRESS

A STEEL TOOL THAT PRESSES THE BRAND, USUALLY THROUGH, CREATING HOLES IN MOST SURFACES

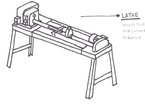


ROUTER TABLE

A WOODWORKING TABLE WITH A ROUTER MOUNTED TO THE TOP OF THE TABLE. IT IS USED TO TRIM OR SHAPE EDGES, CUTTING GROOVES, AND MAKING JOINERY.

TABLE SAW

THE TABLE SAW IS ONE OF THE MOST VERSATILE AND FREQUENTLY USED TOOLS IN THE SHOP. IT IS ESSENTIAL TO HAVE AT LEAST ONE FOR A HOBBY SHOP, BECAUSE THE THING CAN



LATHE

WOODWORKERS USE THIS MACHINE TO CREATE A VARIETY OF ROUND PIECES OF WOOD

SANDING STATION

PROVIDE SANDING STATION TO THE KITCHEN OF EACH APARTMENT. PROJECT A SANDING STATION PROVIDES THE RESIDENTIAL AREA OF CONVENIENT TO MAKE REPAIRS AND ORDER.

CONSTRUCTION HAT

HEAT PROTECTION

SAFETY GOGGLES

EYE PROTECTION

CONSTRUCTION GLOVES

HAND PROTECTION

TOOL BELT

BEING USED TO CARRYING TOOLS

WORK BOOTS

FOOT PROTECTION

MEASURING TAPE

SPEED SQUARE

LEVEL

MEASURING TOOLS

TOOL BELT

RUBBER MALLET

STANDARD HAMMER

HAMMERS

DRILL

PHILLIPS

FLAT

SCREWDRIVERS

OPEN END

ADJUSTABLE

BOX END

WRENCHES

CUTTING TOOLS

SAWS

PLIERS

CHISELS

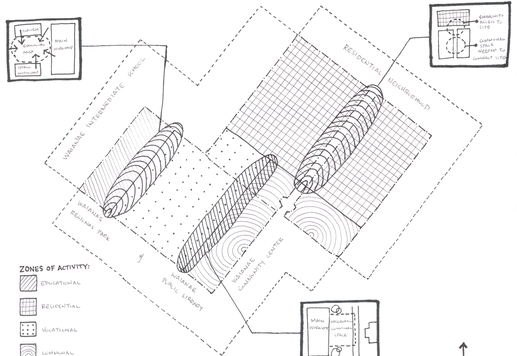
FILES AND RASPS

CLAMPS

SANDING BLOCKS

spatial analysis: farrington highway

ZONE EDGE CONDITION: ON SITE



NORTH

PROGRAM SPACES

RESIDENTIAL

- HOUSING UNITS (MULTI-FAMILY LIVING UNITS)
  - DIRECT SPACES FOR INTERACTION
    - KITCHEN, DINING, LIVING, LOUNGE, STUDY
  - PRIVATE SPACES
    - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - LARGE PUBLIC SPACE - ACCESSIBLE TO PUBLIC
  - MEDIUM SEMI-PRIVATE SPACE - FOR RESIDENTS
  - SMALL PRIVATE SPACE - FOR LIVING UNIT
- PARKING
- GOOD SPACE / PLAYGROUND

COMMUNAL (INTEGRATING WITH COMMUNITY)

- GATHERING SPACES
  - LARGE PUBLIC SPACE
  - PLENTY OF GREEN SPACE
- MAIN OFFICE
- PARKING
- RESTROOM
- CHILD CARE/PLAYGROUND
- PATHWAYS ACROSS SITE

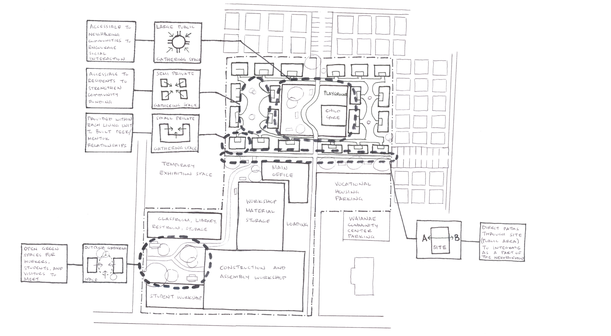
EDUCATIONAL

- CLASSROOM
  - CAN ALSO SERVE AS A MEETING SPACE
- LIBRARY
- STORAGE
- REST ROOM

VOCATIONAL

- WORKSHOP
  - CONSTRUCTION
  - ASSEMBLY
- STORAGE
  - MATERIALS
  - FINISHED, DELIVERABLE
  - SUPPLIES
- LOADING DOCK
- SMALLER WORKSHOP

ON SITE PROGRAM APPLICATION



NORTH

spatial analysis: macarthur street

PROGRAM SPACES

RESIDENTIAL

- HOUSING (MULTI-FAMILY LIVING UNITS)
  - SHARED SPACES FOR INTERACTION
    - KITCHEN, DINING, LIVING, LANAI, STUDY
  - PRIVATE SPACES
    - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - LARGE PUBLIC SPACE - AVAILABLE TO PUBLIC
  - MEDIUM SEMI-PRIVATE SPACE - FOR RESIDENTS
  - SMALL PRIVATE SPACE - PER LIVING UNIT
- PARKING
- CHILD CARE PLAYGROUND

COMMUNAL (INTEGRATION WITH COMMUNITY)

- GATHERING SPACES
  - LARGE PUBLIC SPACE/SEMI-PUBLIC GREEN SPACES
  - COVERED COMMUNITY CENTER
- MAIN OFFICE
- PARKING
- RESTROOM
- PATHWAYS ACROSS SITE
- RECYCLING CENTER
- CHILDCARE/ PLAYGROUND

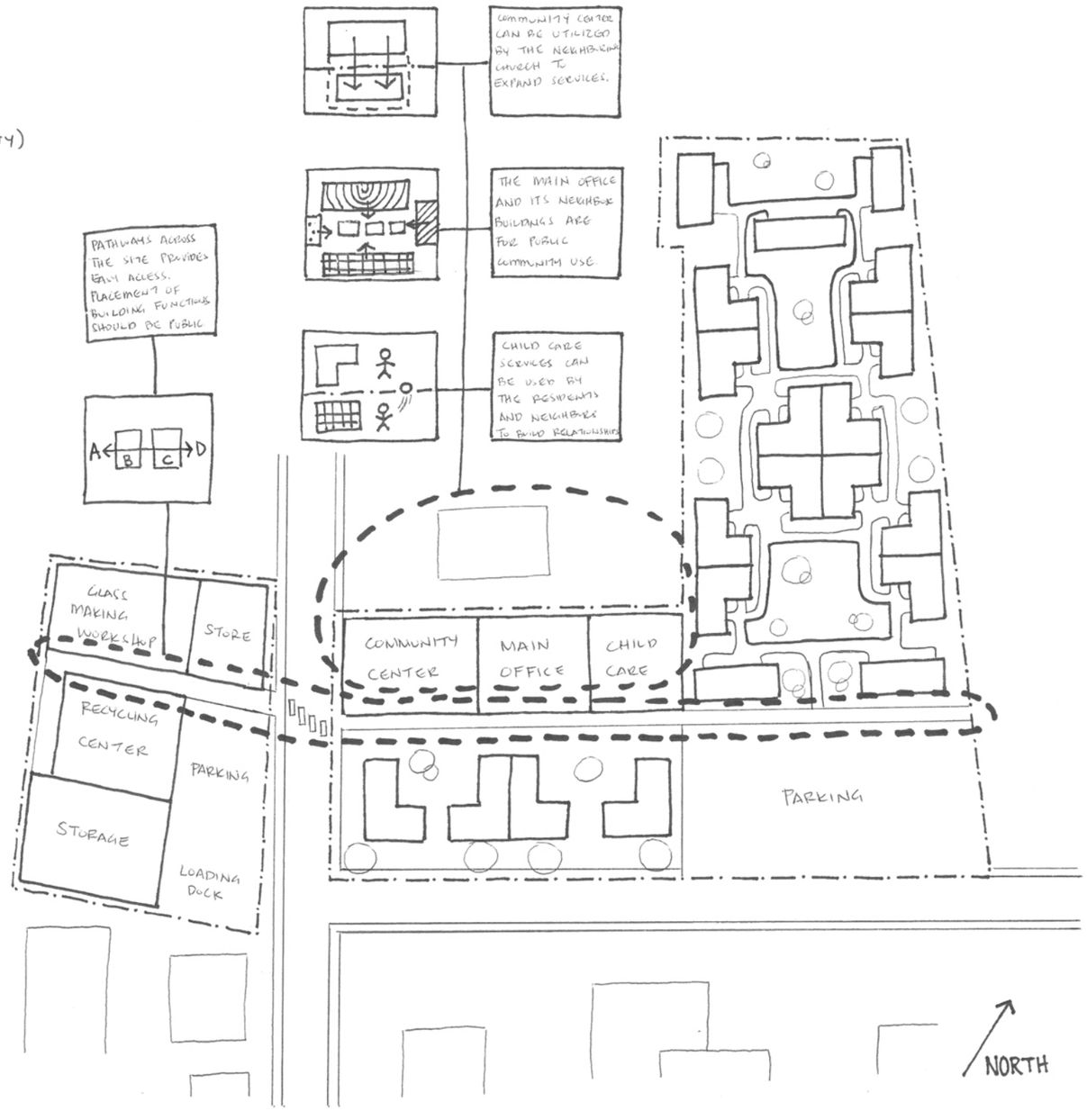
EDUCATIONAL

- CLASSROOM
  - CAN ALSO SERVE AS A MEETING ROOM
- WORKSHOP
  - HANDS-ON ACTIVITIES
- STORAGE
- RESTROOM

VOCATIONAL

- RECYCLING CENTER
- GLASS MAKING WORKSHOP
- STORAGE
- LOADING DOCK
- PACKAGING/DISTRIBUTION

ON SITE PROGRAM APPLICATION



spatial analysis: mcarthur street

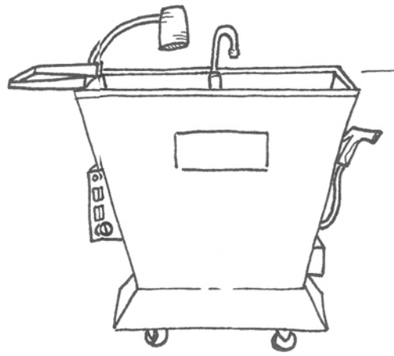
ZONE EDGE CONDITION : ON SITE

day in the life of a craftsman - glass

GLASS RECYCLING EQUIPMENT

STORAGE BIN

USED TO STORE AND SORT GLASS BOTTLES AND CULLET TO BE RECYCLED.



WASHING STATION

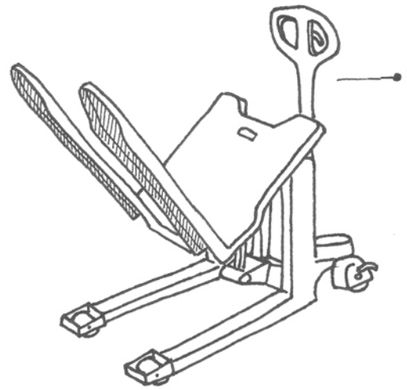
USED TO WASH GLASS BOTTLES AND CULLET FOR CLEANER BATCHES DURING RECYCLING PROCESS.

SAFETY GOGGLES

EYE PROTECTION

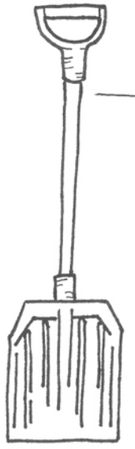
SAFETY MASK

BREATHING PROTECTION



TILT PALLET JACK

USED TO LIFT, MOVE, AND TILT STORAGE BINS TO REMOVE GLASS BOTTLES AND CULLET.

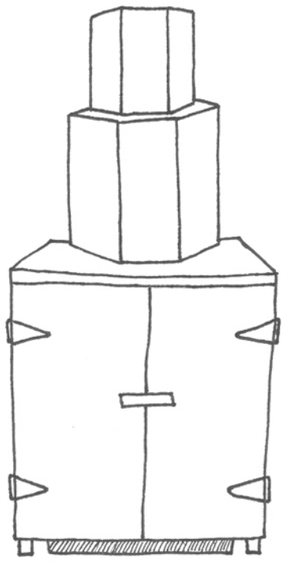


SHOVEL

SCOOP CULLET FROM STORAGE BINS FOR RECYCLING

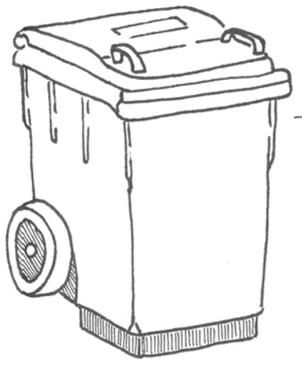
LONG SLEEVE JUMPSUIT

BODY PROTECTION



BOTTLECYCLER

INVENTED IN AUSTRALIA, THE BOTTLECYCLER QUIETLY REDUCES THE DISPOSABLE VOLUME OF EMPTY BOTTLES BY 80%. INSERT BOTTLES NECK FIRST AND THE MACHINE WILL CRUSH THE BOTTLES INTO CULLET.



WASTE BIN

FOR ALL OTHER MATERIAL THAT IS NOT GLASS AND CANNOT BE SOLD OR USED

SAFETY GLOVES (GLASS)

HAND PROTECTION

SAFETY SHOES

FEET PROTECTION

FIRST AID KIT

TO CARE FOR ANY CUTS OR INJURIES DURING GLASS HANDLING

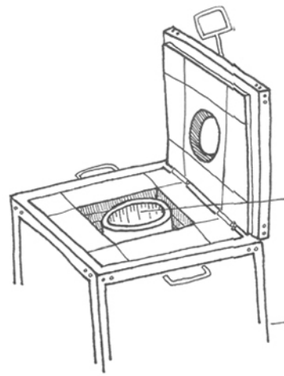
day in the life of a craftsman - glass

GLASS MAKING EQUIPMENT

POLARIZED SAFETY GLASSES
EYE PROTECTION

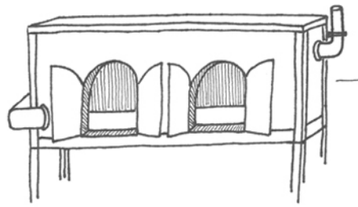
CLOTH SLEEVE
ARM PROTECTION DURING GLASS BLOWING

OVE GLOVE
HAND PROTECTION DURING GLASS BLOWING

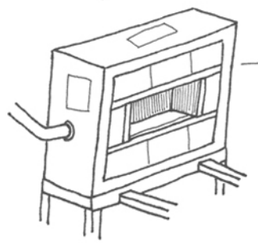


CRUCIBLE
CONTAINER INSIDE FURNACE THAT HOLDS THE MELTED GLASS.

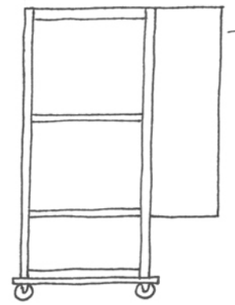
FURNACE
"HOT GLASS" IS STARTED HERE FOR GLASSBLOWING. CULLET IS MELTED TO +2000° F.



GARAGE
AN AREA TO PLACE PARTIALLY FINISHED GLASS PIECES, SO THAT OTHER PIECES CAN BE MADE AND LATER ASSEMBLED USUALLY, GARAGES HAVE A "HOT" AND "COLD" SIDE.



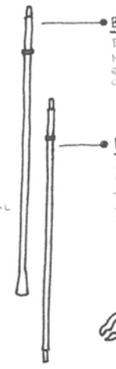
PIPE WARMER
HOT MOLTEN GLASS DOES NOT STICK TO COLD STEEL THEREFORE, BLOWPIPES AND PUNTIES MUST BE HEATED UP PRIOR TO USE



HEAT SHIELD
ADDITIONAL HEAT PROTECTION WHEN USING THE FURNACE OR GLORY HOLE

SOFFIETA (PUFFER)
TYPICALLY USED TO ADD AIR TO A PIECE AFTER TRANSFERING TO THE PUNTY.

BLOW TORCH
PORTABLE BURNER USED TO HEAT SPECIFIC AREAS OF A GLASS PIECE. ALSO USED FOR LAMPWORKING.

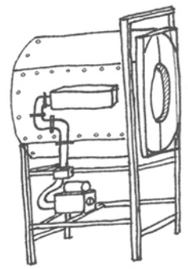


BLOW PIPE
PRIMARY TOOL USED FOR GLASSBLOWING. MOLTEN GLASS IS GATHERED ON ONE END AND AIR IS BLOWN ON THE OTHER END TO EXPAND THE GLASS PIECE

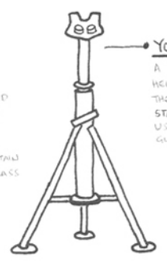
PUNTY (PONTIL)
SEVERAL PURPOSES: TRANSFER A PIECE FROM THE BLOW-PIPE TO THE PUNTY, SO THE TOP CAN BE OPENED UP. ALSO USED TO BRING BITS OF CLEAR GLASS FROM FURNACE AND TO THREAD COLOR GLASS.

SHEARS
USED TO CUT OFF PIECES OF UNWANTED MOLTEN GLASS AND CAN BE USED TO CREASE THE BLOWPIPE OR PUNTY

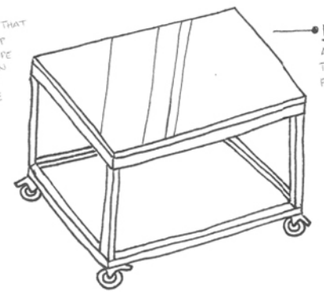
DOUBLE WOOL GLOVES
TO CARRY PIECE TO ANNEALER



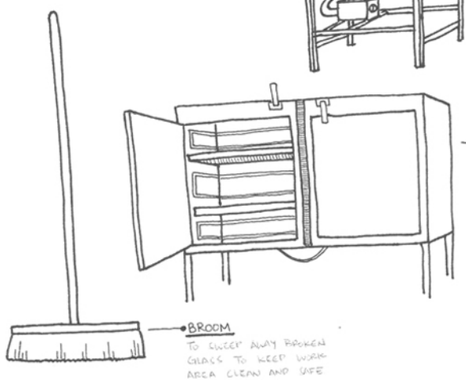
GLORY HOLE
A LARGE INSULATED DRUM HEATED WITH PROPANE (2000°-2400° F) WHICH IS USED PERIODICALLY THROUGHOUT THE GLASSBLOWING PROCESS TO HEAT UP AND MAINTAIN THE TEMPERATURE OF THE GLASS PIECE BEING WORKED ON.



YOLK
A STAND THAT HELPS KEEP THE BLOWPIPE STABLE WHEN USING THE GLORY HOLE

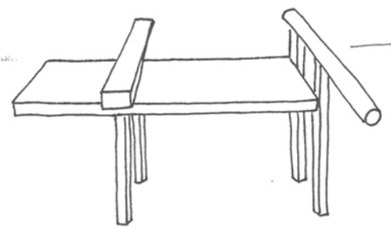


MARVER
A STURDY METAL TABLE WITH A FLAT SURFACE.



ANNEALER
GRADUALLY COOLS GLASS PIECES OVER A MULTI-HOUR (USUALLY OVER NIGHT) PERIOD, PREVENTING CRACKING FROM RAPID COOLING/HEATING.

BROOM
TO SWEEP AWAY BROKEN GLASS TO KEEP WORK AREA CLEAN AND SAFE



BENCH
MOST OF THE GLASSBLOWING ACTIVITY OCCURS ON THE BENCH, BECAUSE IT IS WHERE THE HOT GLASS IS MANIPULATED. THE BENCH HAS TWO ARMS WHICH SUPPORT THE BLOW-PIPE AND ALLOWS THE PIPE TO BE CONSTANTLY KEPT ROLLING. A TABLE NEXT TO THE SEAT IS USED TO PLACE THE TOOLS WITHIN REACH. TYPICALLY, A WOOD BUCKET (WITH WATER) IS PLACED BEHIND THE BENCH TO HOLD ADDITIONAL TOOLS.

JACKS
VERY IMPORTANT MOLDING TOOL IN GLASSBLOWING. BEESWAX IS USED ON THIS TOOL FOR A SMOOTHER PIECES

BLOCK
USED TO COOL AND SHAPE NEARLY MOLTEN GLASS.

PADDLE
USED TO ENSURE THE LIP OF A PIECE IS FLAT AND PERPENDICULAR TO THE PIECE.

WOOD BUCKET
USUALLY LOCATED NEXT TO THE BENCH, USED TO KEEP WOOD HAND TOOLS SUBMERGED IN WATER. TO PREVENT WOOD TOOLS FROM CATCHING ON FIRE AND DRYING OUT.

spatial analysis: plantation road

PROGRAM SPACES

RESIDENTIAL
- HOUSING (MULTI-FAMILY LIVING UNITS)
  - SHARED SPACES FOR INTERACTION
    - KITCHEN, DINING, LIVING, LANAI, STUDY
  - PRIVATE SPACES
    - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - MEDIUM SEMI-PRIVATE SPACE - FOR RESIDENTS
  - SMALL PRIVATE SPACE - PER LIVING UNIT
- PARKING
- CHILD CARE / PLAYGROUND

COMMUNAL
- GATHERING SPACES
  - POCKETS OF GREEN SPACE
- MAIN OFFICE
- PARKING
- CHILD CARE / PLAYGROUND
- PATHWAYS ACROSS SITE
- STORE

EDUCATIONAL
- CLASSROOM / MEETING ROOM
- PROCESSING AREA
- STORAGE
- BEE HIVES
- RESTROOM

VOCATIONAL
- STORE
- STORAGE
- PROCESSING AND PACKAGING
- BEE HIVES
- LOCKER ROOM

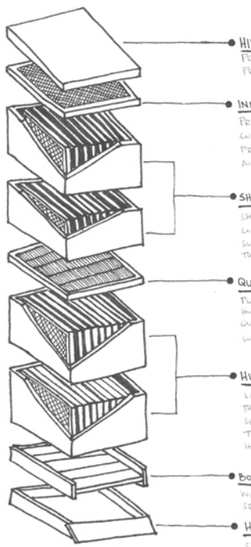
ON SITE PROGRAM APPLICATION

ZONE EDGE CONDITION: ON SITE

spatial analysis:
plantation road

day in the life of a beekeeper

BEEKEEPING EQUIPMENT



HIVE OUTER COVER
PROVIDES WEATHER PROTECTION

INNER COVER
PREVENTS BEES FROM ATTACHING COMB TO OUTER COVER AND PROVIDES INSULATING DEAD AIR SPACE.

SHALLOW HONEY SUPERS
SHALLOW SUPERS WITH FRAMES OF COMB IN WHICH BEES STORE SURPLUS HONEY. THIS SURPLUS IS THE HONEY THAT IS HARVESTED.

QUEEN EXCLUDER
PLACED BETWEEN THE BROOD NEST AND HONEY SUPERS. THIS DEVICE KEEPS THE QUEEN IN THE BROOD NEST, SO BROOD WILL NOT OCCUR IN HONEY SUPERS.

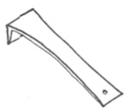
HIVE BODY (BROOD CHAMBER)
LARGE WOODEN BOX (CALLED A "SUPER") THAT HOLDS 10 FRAMES OF COMB. THIS SPACE (THE BROOD NEST) IS RESERVED FOR THE BEES TO REAR BROOD AND STORE HONEY FOR THEIR OWN USE.

BOTTOM BOARD
WOODEN STAND ON WHICH THE HIVE RESTS. SET BOTTOM BOARD ON BRICKS TO KEEP OFF THE GROUND.

HIVE STAND
SUPPORTS THE HIVE OFF THE GROUND TO KEEP HIVE BOTTOM DRY AND DISCOURAGES HIVE

BEE HIVE

SMOKER
THE SMOKER BLOWS SMOKE INTO THE HIVE TO CALM THE BEES WHEN OPENING THE COVER OF THE HIVE. IT CONSISTS OF A METAL FIRE POT WITH A FUNNEL SHAPED LID AND BELLOW. A SMOKE RELEASING NATURAL FUEL SUCH AS RICE HULLS OR STRAW IS PLACED INSIDE THE FIRE POT AND AIR IS INJECTED INTO THE POT BY PUMPING THE BELLOW. THE SMOKE IS THEN DIRECTED TOWARD THE BEES THROUGH THE FUNNEL.

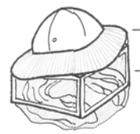


HIVE TOOL
A FLAT, CROWBAR LIKE METAL TOOL ABOUT 8 INCHES IN LENGTH. THE END IS BENT TO FORM A HOOK, AND IT IS USED TO SCRAPE OFF EXCESS PROPOLIS OR TO REMOVE THE FRAMES.

BEE BRUSH
THIS BRUSH IS USED TO SWEEP BEES OFF THE FRAMES THAT HAVE BEEN REMOVED FROM THE HIVE FOR HONEY EXTRACTION. IT IS WET WITH WATER BEFORE USE. RINSE WELL TO PREVENT HONEY FROM STICKING.

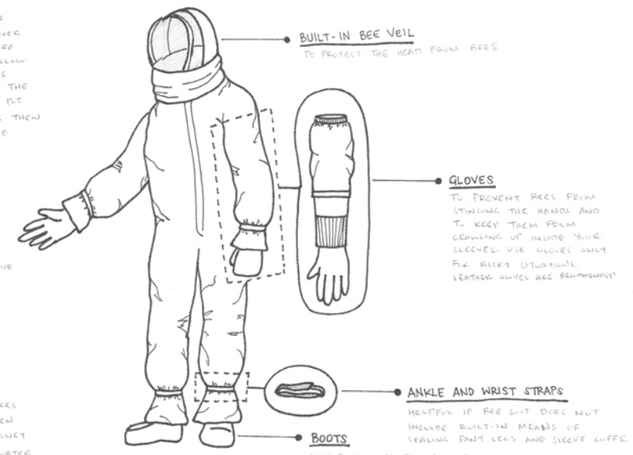
UNCAPPING KNIFE
THIS KNIFE IS USED TO REMOVE THE THIN LAYER OF WAX KNOWN AS "CAPPING" THAT THE WORKER BEES FORM OVER THE MATURE HONEY. THESE CAPPINGS ARE COLLECTED, DRAINED OF HONEY, THEN HEATED, PRESSED, FILTERED, AND ALLOWED TO HARDEN INTO SHEETS OF BEESWAX.

TOOLS



HAT
A WIDE-BRIMMED HAT IS PREFERRED

BEE VEIL
TO PROTECT THE FACE FROM BEES



BUILT-IN BEE VEIL
TO PROTECT THE HEAD FROM BEES

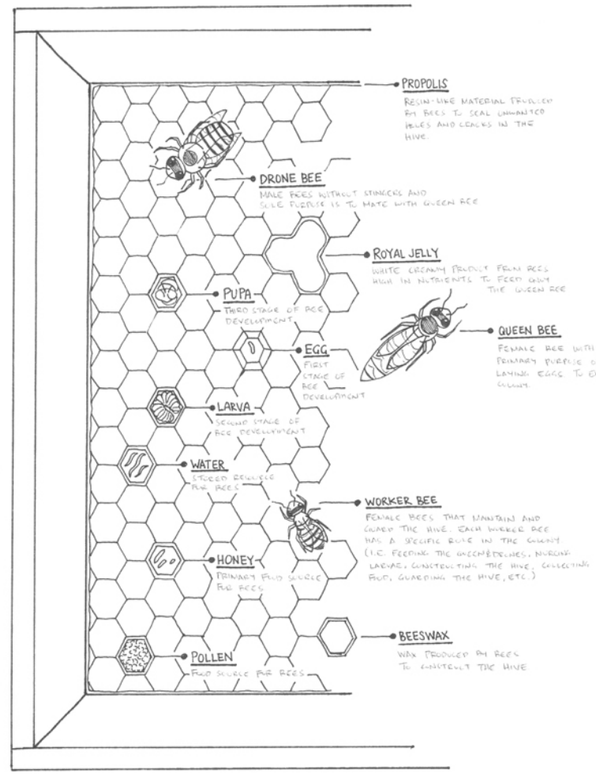
GLOVES
TO PREVENT BEES FROM STINGING THE HANDS AND TO KEEP THEM FROM CRAWLING UP INSIDE YOUR SLEEVES. USE GLOVES ONLY FOR RISKY SITUATIONS. LEATHER GLOVES ARE RECOMMENDED

ANKLE AND WRIST STRAPS
HELPFUL IF BEE SUIT DOES NOT INCLUDE BUILT-IN MEANS OF SEALING PANT LEGS AND SLEEVE CUFFS.

BOOTS
LONG BOOTS WITH TONGUE IS PREFERRED

BEE SUIT

WHITE OVERALLS MADE FROM CANVAS MATERIAL ARE OFTEN WORN. LIGHT COLORS CREATE LESS CHANCE OF ANTAGONIZING THE BEES, & AVOID WEARING DARK COLORS, ROUGH MATERIALS, SUCH AS WOOL OR IN JERSEYS, POLO SHIRTS, AND WORK GLOVES CAN EASILY CATCH THE BEES LEGS, CAUSING THEM TO STING.



PROPOLIS
RESIN-LIKE MATERIAL USED BY BEES TO SEAL UNWANTED HOLES AND CRACKS IN THE HIVE.

DRONE BEE
MALE BEES WITHOUT STINGERS AND SOLE PURPOSE IS TO MATE WITH QUEEN BEE

ROYAL JELLY
WHITE CREAMY PRODUCT FROM BEES HIGH IN NUTRIENTS TO FEED YOUNG THE QUEEN BEE

PUPA
THIRD STAGE OF BEE DEVELOPMENT

QUEEN BEE
FEMALE BEE WITH PRIMARY PURPOSE OF LAYING EGGS TO EXISTENCE

EGG
FIRST STAGE OF BEE DEVELOPMENT

LARVA
SECOND STAGE OF BEE DEVELOPMENT

WATER
STORED RESOURCE FOR BEES

WORKER BEE
FEMALE BEES THAT MAINTAIN AND GUARD THE HIVE. EACH WORKER BEE HAS A SPECIFIC ROLE IN THE COLONY (I.E. FEEDING THE QUEEN/DRONES, NURSING LARVAE, CONSTRUCTING THE HIVE, COLLECTING FOOD, GUARDING THE HIVE, ETC.)

HONEY
PRIMARY FOOD SOURCE FOR BEES

BEESWAX
WAX PRODUCED BY BEES TO CONSTRUCT THE HIVE

POLLEN
FOOD SOURCE FOR BEES

BEE COLONY

spatial analysis: farrington highway

PROGRAM SPACES

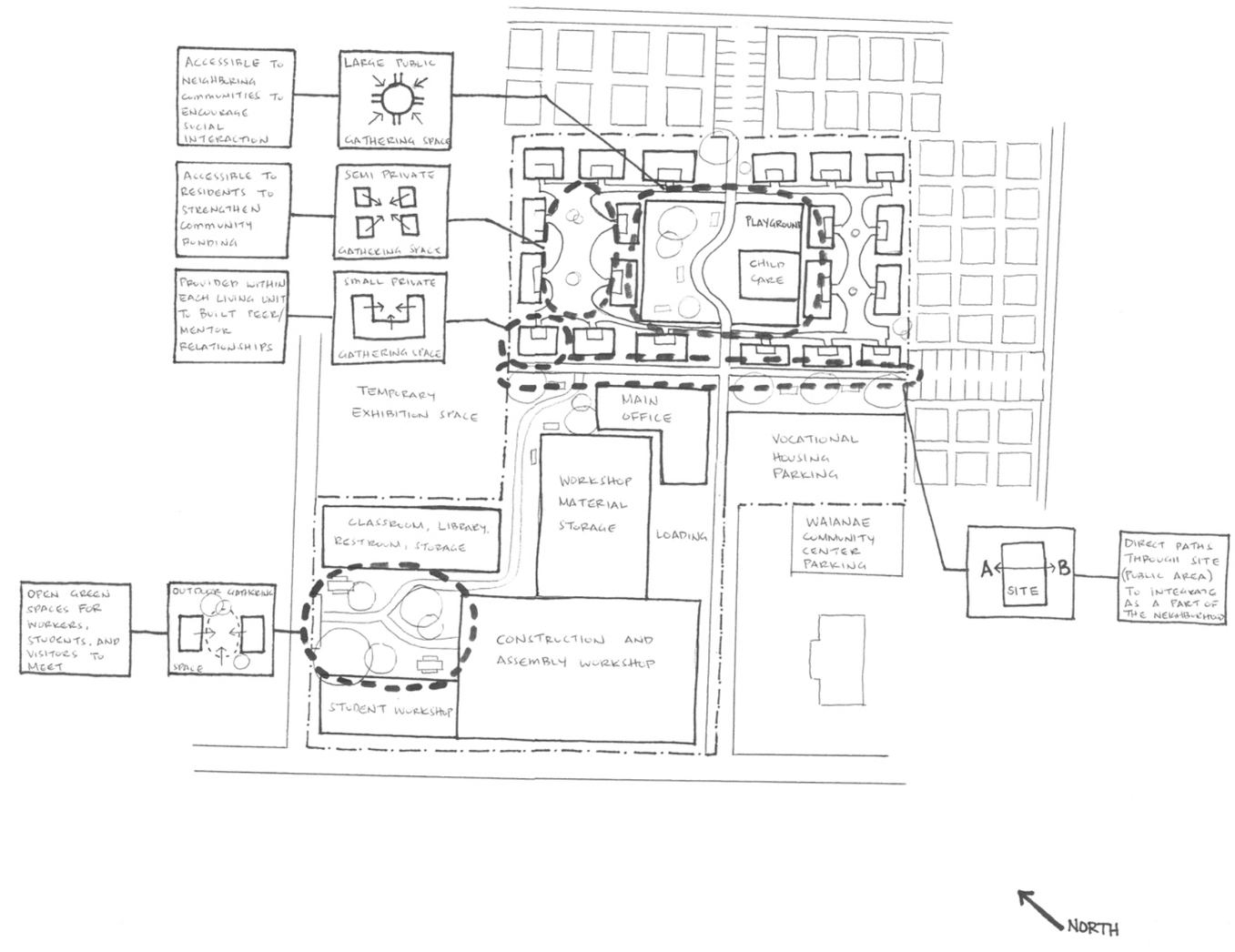
RESIDENTIAL
- HOUSING (MULTI-FAMILY LIVING UNITS)
  - SHARED SPACES FOR INTERACTION
    - KITCHEN, DINING, LIVING, LANAI, STUDY
  - PRIVATE SPACES
    - BEDROOM, BATHROOM, STORAGE
- GATHERING SPACES (INTERACTION WITH COMMUNITY)
  - LARGE PUBLIC SPACE - AVAILABLE TO PUBLIC
  - MEDIUM SEMI-PRIVATE SPACE - PER RESIDENTS
  - SMALL PRIVATE SPACE - PER LIVING UNIT
- PARKING
- CHILD CARE/ PLAYGROUND

COMMUNAL (INTEGRATION WITH COMMUNITY)
- GATHERING SPACES
  - LARGE PUBLIC SPACE
  - POCKETS OF GREEN SPACE
- MAIN OFFICE
- PARKING
- RESTROOM
- CHILD CARE/PLAYGROUND
- PATHWAYS ACROSS SITE

EDUCATIONAL
- CLASSROOM
  - CAN ALSO SERVE AS A MEETING ROOM
- LIBRARY
- STORAGE
- RESTROOM

VOCATIONAL
- WORKSHOP
  - CONSTRUCTION
  - ASSEMBLY
- STORAGE
  - MATERIALS
  - PERSONAL BELONGINGS
  - SUPPLIES
- LOADING DOCK
- SMALLER WORKSHOP

ON SITE PROGRAM APPLICATION

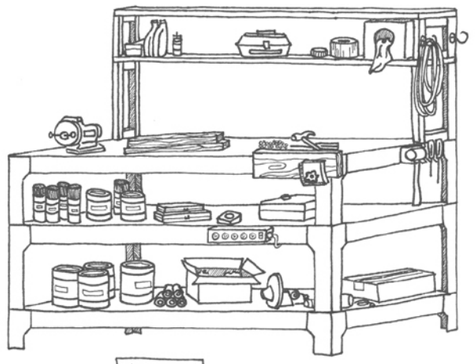


ZONE EDGE CONDITION: ON SITE

spatial analysis: farrington highway

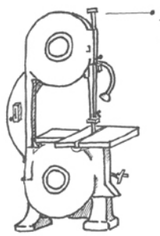
day in the life of a construction worker

CONSTRUCTION EQUIPMENT



WORKBENCH

THE STAPLE OF A WOODWORKING SHOP, AND THEY TAKE A LOT OF ABUSE. KEY FEATURES TO LOOK FOR WHEN SELECTING A WORKBENCH ARE STURDINESS, A WIDE FLAT FRONT, PLENTY OF CLAMPING SURFACES AND HOLES TO ACCOMMODATE BENCH DOGS.

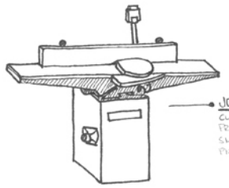


BAND SAW

HELPFUL IN MAKING FREEHAND CURVES OR FOR RE-SAWING

DRILL PRESS

A VITAL TOOL THAT ALLOWS THE ABILITY TO MAKE PRECISE, STRAIGHT HOLES IN WOOD SURFACES.



JOINTER

CUTS THE EDGES OF WOOD PRECISELY TO PROVIDE FLAT, SMOOTH EDGES FOR JOINING PIECES OF WOOD TOGETHER

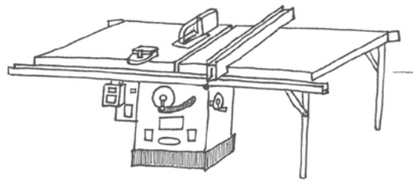
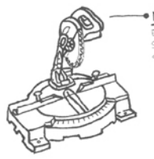


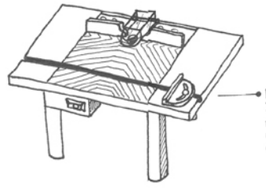
TABLE SAW

ONE OF THE MOST VERSATILE AND FREQUENTLY USED TOOLS IN THE SHOP. IT IS ADVISABLE TO HAVE AT LEAST EIGHT FEET OF ALLEN STACE AROUND THE TABLE SAW



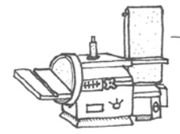
MITER SAW

ESSENTIAL FOR SMALLER CUTS. SOME PEOPLE USE A MITER SAW IN PLACE OF A TABLE SAW



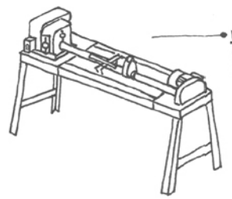
ROUTER TABLE

SIMPLIFIES THE JOB OF ROUNDING OR TRIMMING EDGES, CUTTING RABBETS AND MAKING JOINERY



SANDING STATION

PROPER SANDING IS CRITICAL TO THE OUTCOME OF ANY WOODWORKING PROJECT. A SANDING STATION MAKES THE ESSENTIAL JOB OF SANDING GO MUCH FASTER AND EASIER.



LATHE

WOODTURNERS USE THIS HIGH-END MACHINE TO MAKE A VARIETY OF HIGHLY DESIGNED WOOD ELEMENTS.

CONSTRUCTION HAT

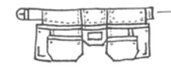
HEAD PROTECTION

SAFETY GOGGLES

EYE PROTECTION

CONSTRUCTION GLOVES

HAND PROTECTION

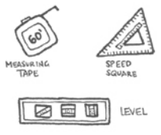


TOOL BELT

MOBILE MEANS OF CARRYING TOOLS

WORK BOOTS

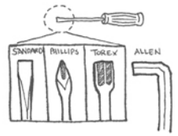
FOOT PROTECTION



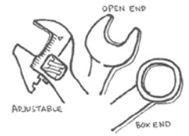
MEASURING TOOLS

HAMMERS

DRILL

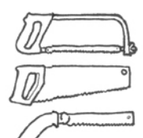


SCREWDRIVERS

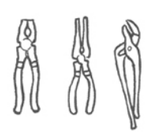


WRENCHES

CUTTING TOOLS



SAWS

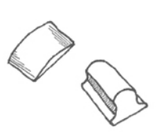


PLIERS

CHISELS

FILES AND RASPS

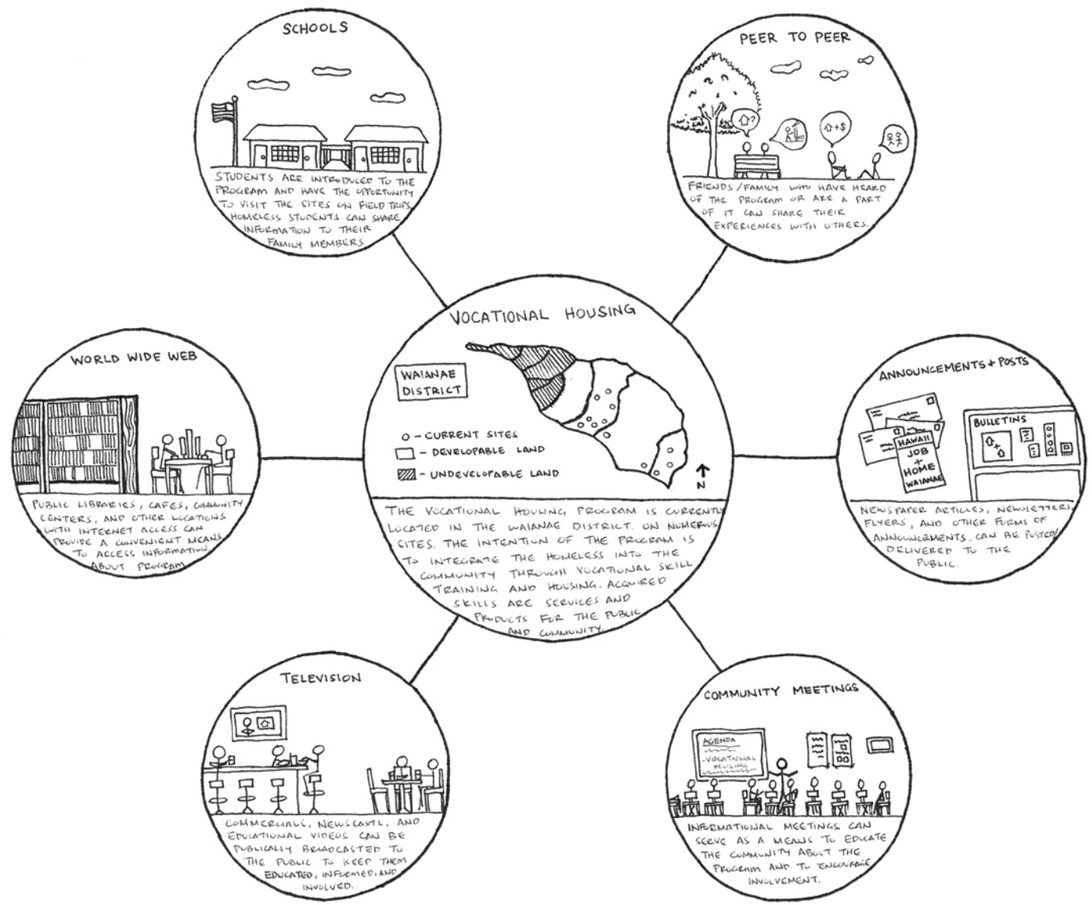
CLAMPS



SANDING BLOCKS

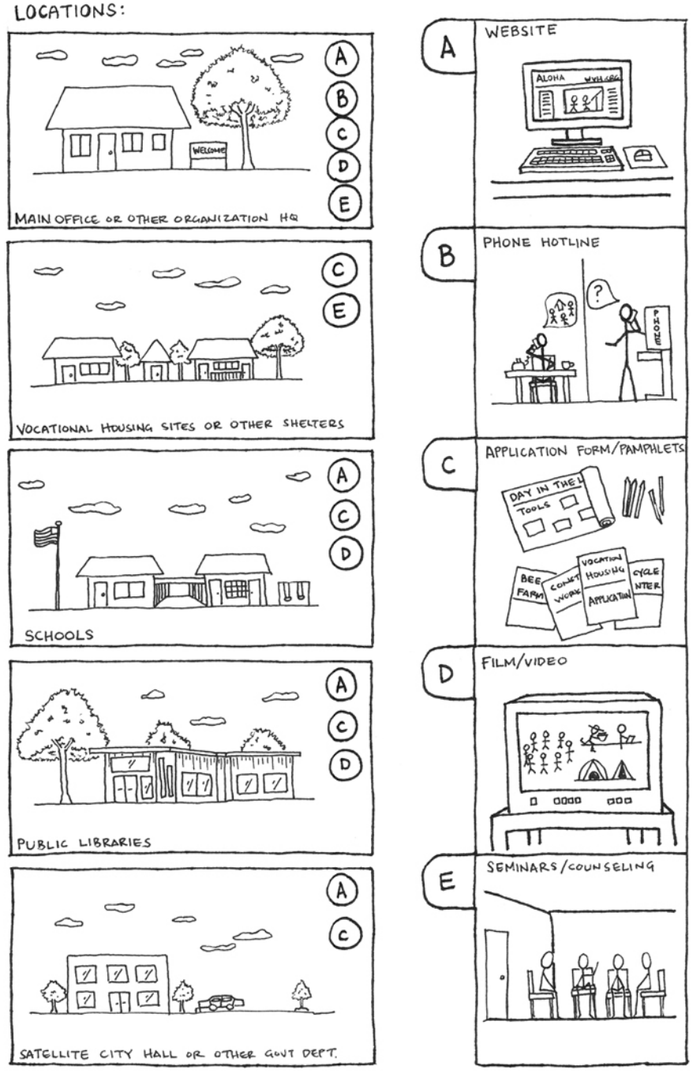
introduction to vocational housing program

DEVELOPING AN INTEREST



AQUIRING INFORMATION

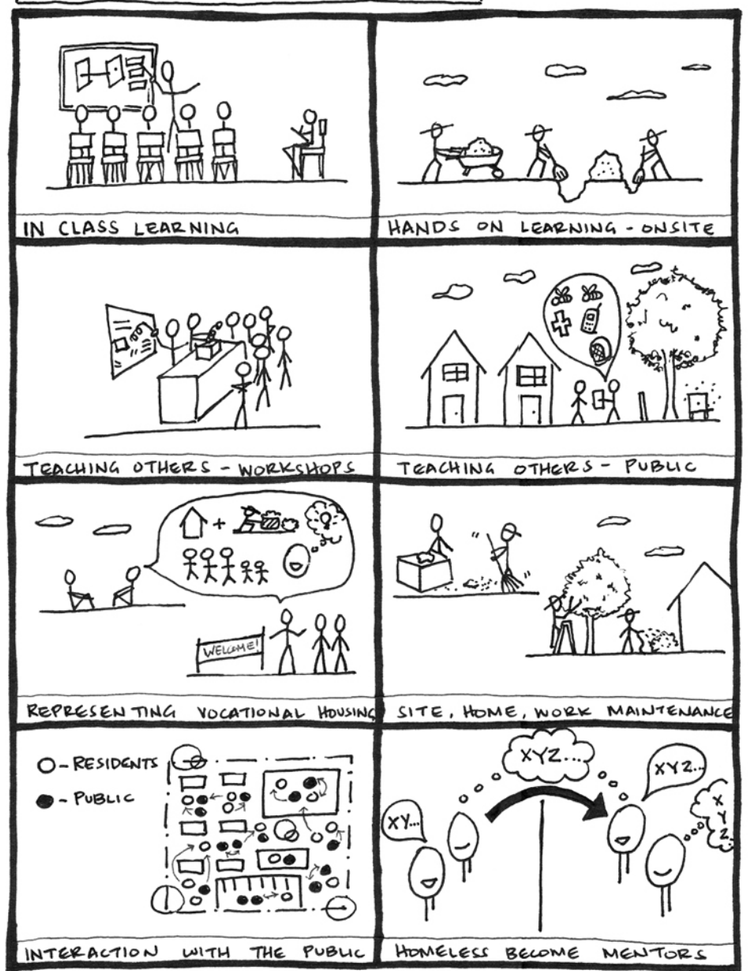
LOCATIONS:



introduction to vocational housing program

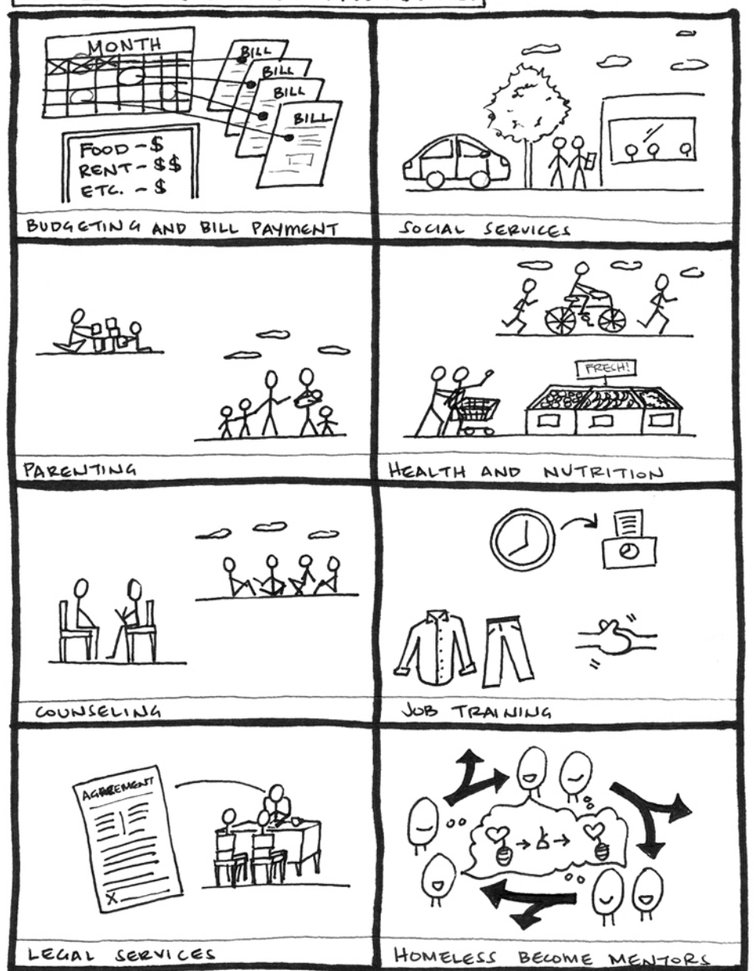
MENTORSHIP AND ADDITIONAL PROGRAM ACTIVITIES

VOCATIONAL TRAINING



MENTORS TRAIN, EDUCATE, AND BEFRIEND NEW HOMELESS RESIDENTS. PEER TO PEER LEARNING BUILDS TRUST IN RELATIONSHIPS, BECAUSE THE MENTOR HAS BEEN IN THE SAME SHOES AS THE HOMELESS AND ARE A LIVING EXAMPLE OF SUCCESS AND THE POSSIBILITIES THAT LIE AHEAD. VOCATIONAL SKILLS GAINED BUILDS SELF-ESTEEM AND PRIDE. THE EXPERIENCES GAIN CAN BE APPLIED IN THE FUTURE AND SHARED WITH OTHERS.

LIFE SKILL TRAINING

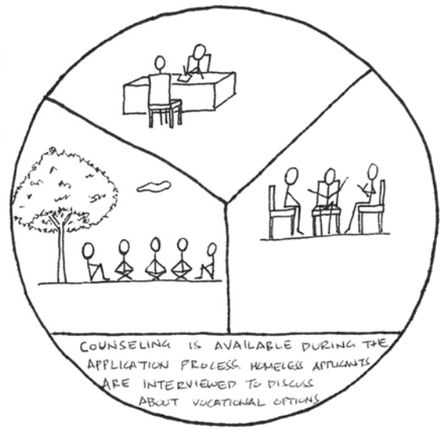


IN ADDITION TO VOCATIONAL TRAINING, HOMELESS RESIDENTS LEARN GENERAL LIFE SKILLS TO HELP THEM LIVE INDEPENDENTLY AND TO CARE FOR THEMSELVES (AND THEIR FAMILY) PROPERLY. MENTORS CAN HELP GUIDE THE HOMELESS THROUGH THE PROCESS, SO THEY BECOME AWARE OF THE SERVICES AVAILABLE TO THEM.

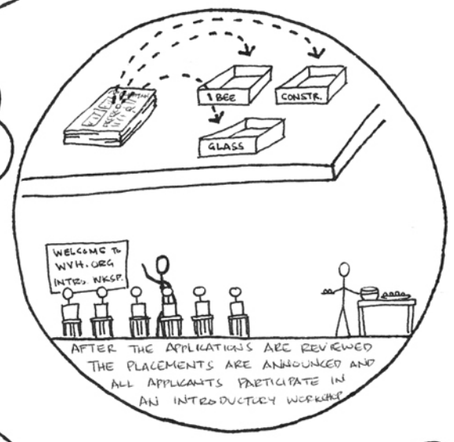
APPLICATION PROCESS

1

2



3



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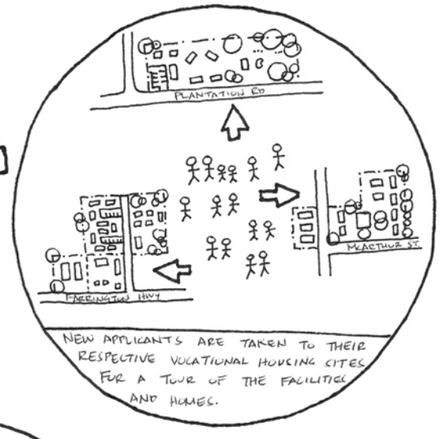

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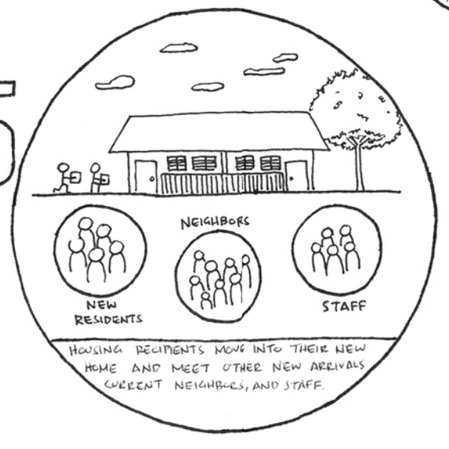
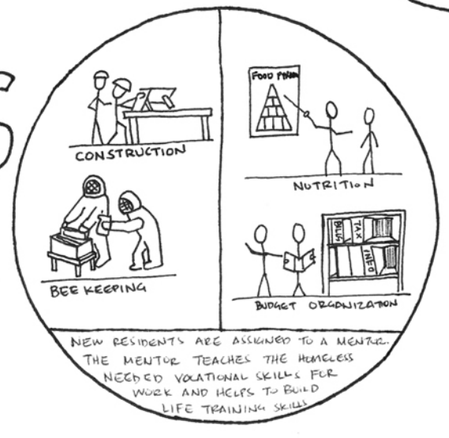


6



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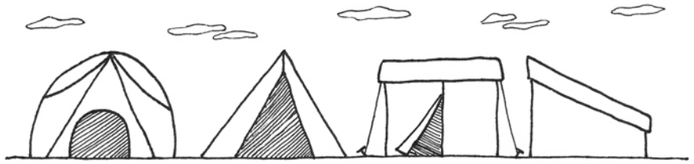
day in the life of a homeless person

HOUSING/SHELTER/SLEEPING QUARTERS


MAKE SHIFT SHELTER

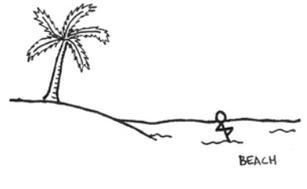
TEMPORARY SHELTER


STORAGE

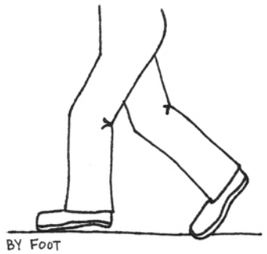
CAR

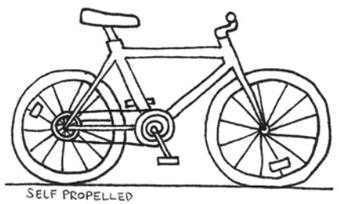
OUTDOORS

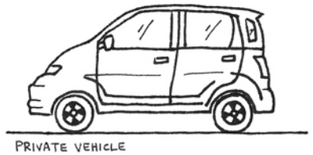

PUBLIC FACILITIES

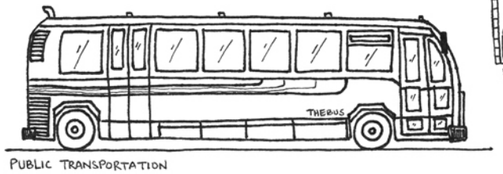

BEACH

TRANSPORTATION


BY FOOT


SELF PROPELLED


PRIVATE VEHICLE



PUBLIC TRANSPORTATION

CAUSES AND AFFECTS

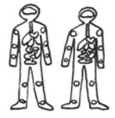

MARIJUANA


COCAINE


CRYSTAL METHAMPHETAMINE


ALCOHOL


MENTAL ILLNESS

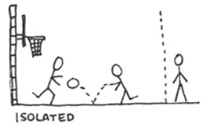

HEALTH


PHYSICALLY CHALLENGED

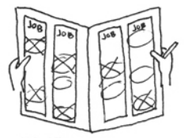

HOUSING SHORTAGE


LACK OF SUPPORT


RIDICULED


ISOLATED

DAY TO DAY ACTIVITY



JOB SEARCHING

PAN HANDLING

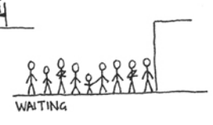

DUMPSTER DIVING


WORKING


DAY LABOR


SQUATTING

SCHOOL


WAITING

spatial analysis: all sites

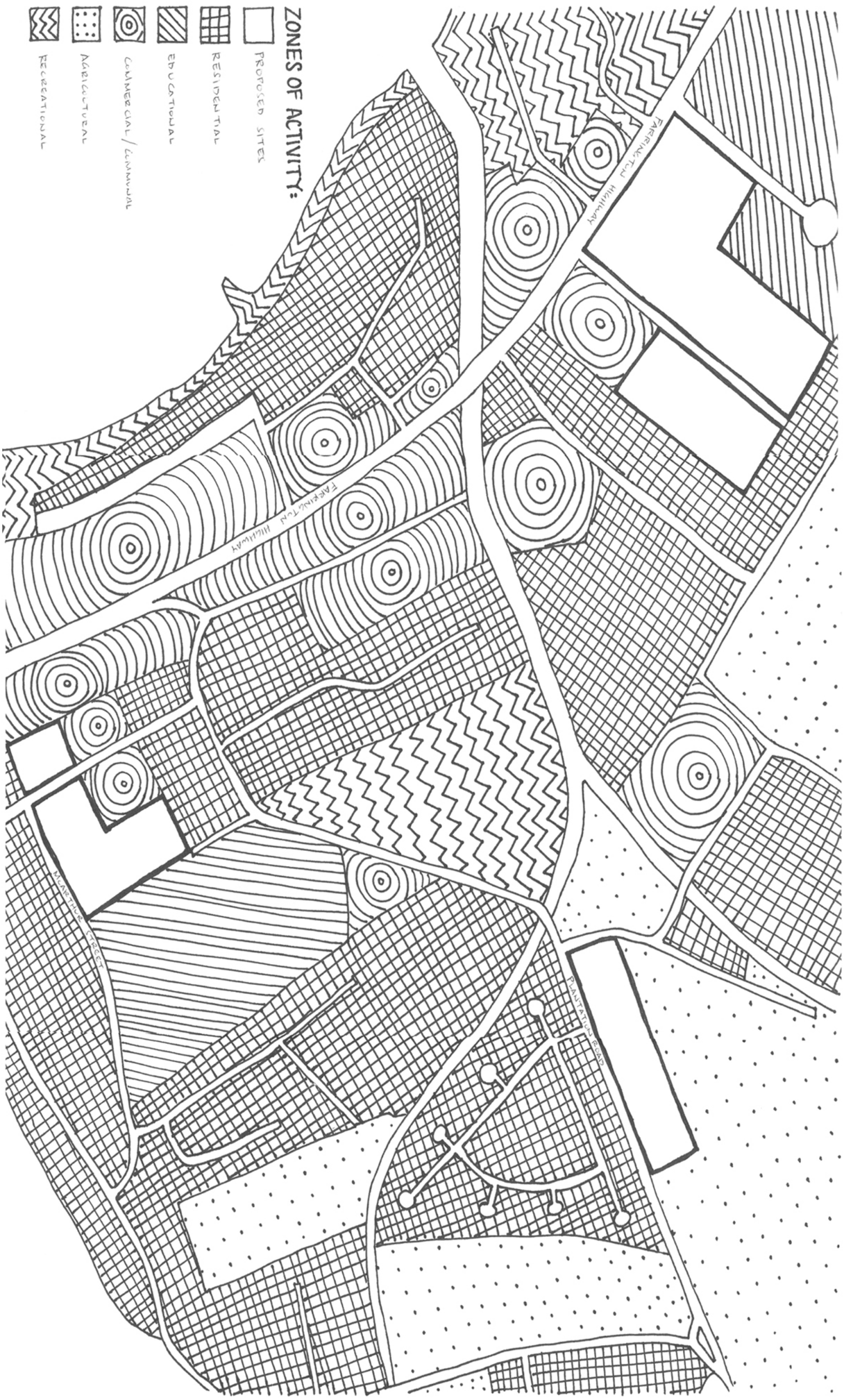
ZONE EDGE CONDITION : OFF SITE

SPATIAL RELATIONSHIPS STUDY

TYPES OF ACTIVITY:

- EDUCATIONAL
- EDUCATIONAL AND COMMUNAL
- COMMUNAL
- RECREATIONAL
- BUSINESS

spatial analysis: all sites



spatial analysis: all sites